

**AN OPEN COMPARATIVE CLINICAL EVALUATION ON  
“SAGANAVATHAM (CERVICAL SPONDYLOSIS)” WITH THE  
SIDDHA TRIAL DRUGS “PANCHA PASHANA CHENDHURAM”  
(INTERNAL), “KURUNTHOTTI THAILAM” (EXTERNAL) AND  
“VARMAM THERAPY”**

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**DECLARATION BY THE CANDIDATE**

I hereby declare that this dissertation entitled “An open comparative clinical evaluation on “saganavadham” (cervical spondylosis) with siddha trial drugs “Pancha Pashana Chendhuran” (internal), “kurunthottithailam” (external) and “varmamtherapy” is a bonafide and genuine research work carried out by me under the guidance of Dr. M. Mohamed musthafa, M.D (S), Post Graduate Department of Sirappu Maruthuvam, Govt. Siddha Medical College, Arumbakkam, Chennai-106 and the dissertation has not formed the basis for the award of any Degree, Diploma, Fellowship or other similar title.

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Place: Chennai

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### **CERTIFICATE BY THE GUIDE**

This is to certify that the dissertation entitled “An open comparative clinical evaluation on “saganavadham” (cervical spondylosis) with siddha trial drugs “Pancha Pashana Chendhuras” (internal), “kurunthotti thailam” (external) and “varmam therapy” is submitted to The Tamilnadu Dr.M.G.R.Medical University, Chennai in partial fulfillment of the requirements for the award of degree of M.D (Siddha) is the bonafide and genuine research work done by M. Rajanandhini under my supervision and guidance. The dissertation has not formed the basis for the award of any Degree, Diploma, and Associate ship, Fellowship or other similar title.

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## **ENDORSEMENT BY THE HOD, PRINCIPAL/HEAD OF THE INSTITUTION**

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## 1. INTRODUCTION

The father of siddha medicine is the primordial guru, Agasthiar. There are also 18 prime siddhars who are followers of the primordial guru, contributed their valuable knowledge and experiences in the siddha system of medicine which is the one of the most antiquated traditional medical system in our world.

“பெற்றிருந்த தாரையும் பேணார் கயவர்கள்

உற்றிருந்த தாரை உளைவன சொல்லுவர்

கற்றிருந்த தார்வழி உற்றிருந்தார் அவர்

பெற்றிருந்தார் அன்றி யார்பெறும் பேறே”

- திருமூலர் திருமந்திரம்

“Siddha means to be ever sure and true, ever ready and everlasting”

Siddha system of medicine, recognizable among the Dravidian population that prevails in south India and is practiced from time immemorial especially in Tamil populated region. Sage Agasthiyar is considered the guru of all siddhars, and the siddha system is believed to have been handed over to him by god-lord Shiva and goddess parvathi.

Siddha system emphasizes not only a healthy body but a peaceful mind and pure soul. It is distinctive when compared to any other medical system.

Siddha system has simple medicines like chooranam, kudineer, maathirai, legium. But rather than this there are some higher forms of medicine like parpam, chendhooram, kattu, kalangu, padhangam, etc. These medicines are highly potent which can be prescribed to the chronic Ailments like Cancer, HIV, Neurological disorders. The higher efficacy siddha medicine offers more effective, nature friendly, holistic, preventive and rejuvenative properties. Apart from medicines siddhars also told about Rasavatham (Alchemy), in which lower metals like copper are transformed into higher metals like gold.

“ Vaathi kettal vaithiyan (வாதி கெட்டால் வைத்தியன்)”

Saganavatham (Cervical spondylosis) is a common form degenerative condition of the cervical spine. It is more common in the age of 25 years, 60 % of the population older than 45 years of age and 8% older than 65 years of age account for the case of cervical spondylosis reported. In males, the prevalence was 13% in the third decade, increasing to nearly 100% by age 70 years. In females, the prevalence ranged from 5% in the fourth decade to 96% in women older than 70 years. This condition is increasing nowadays among the people working in corporate companies, white collar jobs, owing to the postural changes, poor dietary habits, the factor contributing to the degeneration of the bone, especially of the cervical region is becoming common.

In Siddha literature (Yugi Vaithiya Sindhamani), a condition called Saganavatham shall be correlated with symptoms of Cervical spondylosis.

In Siddha system, medicines are divided into 32 different types of internal and 32 different types of external medications. Chendhooram is one among the 32 types of internal medicine. In Chendhooram the ingredients are converted into nano particles. Nano medicine are capable of enhanced permeability in cell. Nano medicine is providing an alternative treatment strategy that is more targeted and specific to regeneration. By administration of Pancha Pashana Chendhooram (PPC) which is one of the nano medicine has the tissue regeneration capabilities in the body and faster action in the cell, the most important function for treatment of Cervical spondylosis (Saganavatham). Choosing Chendhooram as drug of choice has many advantages i.e minimal dose is enough, can be absorbed easily etc.

Thailam is an herbal or herbo-mineral formulation, which is prepared by using oil like gingelly oil, as base. Based on the application, thailam is classified into types viz. *Mudi thailam, Pidi thailam, Kudi thailam, Tholai thailam, Silai thailam*. *Pidi Thailam* is used for external application. External application of thailam gives relief from pain, inflammation etc.

“Vaasi thattumidamellam varmamaache”(வாசிதட்டுமிடமெல்லா வர்மமாச்சே)”

Varmam is the branch of special medicine in siddha medical system. Although many different kinds of external therapies like Thokkanam, Accupuncture, Accupressure in the world, Varmam is always unique among them because of its nature of giving instant relief, cost effectiveness, non-requirement of any specific instruments. Varmam (Stimulating of vital points of body therapeutically) is very effectively used for diseases like Arthritis, Cervical spondylosis, Lumbar spondylosis, Osteoarthritis, Hemiplegia etc.

I have chosen Pancha pashana chendhooram (PPC) and kurunthotti thailam with supporting therapy varmam for the management of Cervical spondylosis (Saganavatham) as my dissertation topic. I hope this combined therapy will help to manage Saganavatham in a holistic way.

## **2. AIM& OBJECTIVES**

### **AIM:**

To evaluate the therapeutic efficacy of siddha trail drugs Pancha Pashana Chendhurasam”(internal), “Kurunthottithailam”(external) and “Varmam therapy” on saganavatham (Cervical spondylosis)

### **OBJECTIVES:**

#### **PRIMARY OBJECTIVE:**

To evaluate the therapeutic efficacy of siddha trail drugs “Pancha Pashana Chendhurasam ” (internal), “Kurunthottithailam”(external) and “Varmam therapy” on saganavatham(Cervical spondylosis)

#### **SECONDARY OBJECTIVE:**

To Standardize the standard operating procedure for both siddha trail drugs. Standardization through both traditional modern analytical techniques

Evaluation of acute and sub- acute toxicity studies for the trail drug “Pancha Pashana Chendhurasam” (PPC)

To evaluate the pharmacological activity Anti-inflammatory and analgesic activity of the trail drug Pancha Pashana Chendhurasam (PPC) in animal model

To evaluate the safety of the trail drug Pancha Pashana Chendhurasam (PPC) in saganavatham patients before and after treatment

To have clinical trial drugs “Pancha Pashana Chendhurasam” (int)and “Kurunthotti oil” (ext) in the treatment of “saganavatham”

To demonstrate the methodology of ancient medical art varmam therapy in treating saganavatham

To create a knowledge about the siddha medicine and prove the efficacy of siddha drug for the disease of Saganavatham (Cervical spondylosis)

### **3. REVIEW OF LITERATURE**

#### **3.1 SIDDHA ASPECT:**

Siddha system of medicine the diseases are classified into 4448 types in our ancient siddha literatures, based on vatha, pitha, kapha theory. Vatha diseases get a major role among that. By such classification there are 80 types of vatha diseases among Saganavatham is one of them.

Before reviewing the specific signs and symptoms of saganavatham, the details of vatham is described here under the following headings.

#### **VATHAM:**

#### **OTHER NAMES OF VATHAM:**

Vayu, Vali

#### **DEFINITION:**

Vatham or vayu is not mere a wind, but also causes motion energy and sensation of every cell in the body. Hence vatham is one of the three humours (vatham, pitham, kabam) which is responsible for construction nature of works in the human body. In physiological conditions the existence of three thadhus are in ratio of 1,1/2,1/4 respectively. This ratio is altered when there is disturbance of normally existing, thadhus by the environmental factors, diet, habits etc., and vatha dhosam may be increased or decreased.

#### **PHYSIOLOGY OF VATHAM:**

The three basic factors vatham, pitham and kabam working in physiological condition, is called three thadhus and uyir thadhus. These factors are working through an internal instrument called andhakaranam, which is composed of manam, puthi, siddham and agankaram. So, mind is the receptor of all sorts of impulses produced within the body.

Kundalini sakthi, an enormous power is kept in the mooladharam like a sleeping snake. It can be revitalized and fully utilized by yoga and meditation. When this aanma sakthi is stimulated by the external factors, the kundalini goes upwards like an angered snake and produces motor (seiunarvu) and sensory (meiunarvu) functions. This is otherwise called as kanmaindhiriyam and gnanaindhiriyam respectively. These are closely associated with nervous system of the body and this is discussed in vingnanamaya kosam in detail.

In human body, the locomotor activity functions through voluntary muscles and it is controlled by nervous system called kanmaindhiriyam. Likewise, the sensation and its activities are known as Gnanendhiriyam. These types of activities are governed by the vatha humour among the three dhatus.

#### **LOCATIONS OF VATHAM:**

Seats of vatham : Below the naval

Generally, vatham lives in

1. Aban
2. Edakalai
3. Kaama kodi
4. Undhiyin keezh moolam
5. Muscles
6. Bones
7. Hair follicles
8. Nerves
9. Skin
10. Joints
11. Stools

Physiologically, vatham which has no alteration lives GI track, bones, ear, thigh, hip and skin.

### **NATURAL PROPERTIES OF VATHAM:**

1. Giving briskness
2. Expiration and inspiration
3. Functioning the seven udal kattugal, uniformly
4. Functioning the mind, thoughts and body
5. Regulation of 14 physiological reflexes
6. Protection and strengthening of the five sensory organs.

### **IMBALANCE OF VATHAM:**

1. Body ache
2. Tearing pain
3. Pricking pain
4. Nerve weakness
5. Dryness
6. Movements
7. Shivering
8. Mental distress
9. Weakness
10. Traumatic pain
11. Joint pain
12. Dislocation of joints of upper & lower limbs
13. Weakness of organs
14. Pilo-erection
15. Paralysis of the limbs
16. Polydipsia
17. Bony pricking pain
18. Severe pain in calf and thigh muscles
19. Anuria and constipation
20. Unable to do flexion and extension of limbs
21. All tastes to be like astringent
22. Astringent salivation

23. Darkness of skin, eye and urine.

### **QUALITIES OF VATHAM:**

#### **OWN QUALITIES:**

1. Kadinam – hardness
2. Varatchi – dryness
3. Elesu – lightness
4. Kulirchi – coolness
5. Asaidhal – mobility
6. Anuthuvam – subtleness

#### **OPPOSITE QUALITIES:**

1. Miruthu – soft
2. Parumai – unctuous
3. Paluvu – heavy
4. Akkini – hot
5. Sthiram – stable
6. Katti - solid

### **RELATION WITH TASTE:**

The tastes, which neutralize vatham are sweet, sour and salt

“வாத மேலிட்டால் மதுரம் புளியுப்பு

சேதமுற செப்புஞ் சிறையம் - ஓதக் கேள்

காரந் துவர்கசப்பு காட்டுஞ் சுவையெல்லாம்

சாரப் பரிகாரம் சாற்று”

- கண்ணுசாமியம்

### **RELATION WITH FIVE ELEMENTS:**

Vatham – kaatru + aahaayam



Vatham has kaatru and aahaayam as its elemental constituents. If kaatru and aahaayam or any of them is decreased or increased from the normal level, it will surely lead to pathological state of vatham.

Regarding diet, bitter, pungent and astringent tastes contain vali and bitter alone contains aahaayam. So if these are consumed in large amounts this results in the vitiation of vatham and eventually vatha diseases. The six tastes and their constituents elements are as follows.

Sweet = earth + water, Sour = earth + fire, Salt = water + fire, Bitter = air + sky, Pungent = air + fire, Astringent = earth + air

Vatham = air + sky, Pitham = fire, Kabam = water + earth

## **DESCRIPTION OF VATHAM:**

The siddha classical texts divide the general principles of vatham into ten subsidiary forms that differ from one another by their localization in the body and by their particular functions. They are,

### **1. PRANAN (Uyirkaal):**

It corresponds to the cardiac plexus and refers to the chest. It regulates the respiratory system and helps the digestive system. It's derangement causes respiratory disorders.

### **2. ABANAN (Kizhnokkumkaal):**

It corresponds to the pelvic plexus and expels faecal matter and urine. It constricts the anal sphincter. It helps to spread the digestive food all over the body. It is also responsible for the expulsion of sperm and menstrual flow. Its derangement leads to diseases of the bladder, rectum and reproductive system.

### **3. VIYANAN (paravukaal):**

It corresponds to the vaso-ciliary at the root of the nose and base of the skull and contents will. Vyanan spreads over the body in all endings and causes constriction and

relaxation of both voluntary and involuntary muscles. This is responsible for the movements of the body and sensory perceptions.

It causes flow of fluids, flow of sweat, opening and closing of eyes etc., it is responsible for taking the absorbed essence of the food to the different parts of the body. The neurological problems of the body are basically because of the derangement of vyana.

#### **4. UDHANAN (Melnokkumkaal):**

It corresponds to the pharyngeal in the throat region and regulates the higher functions of brain like speech. Its derangement causes symptoms of upper gastrointestinal tract diseases, problems in speech etc. it is also responsible for the physiological reflex actions like vomiting, hiccup, cough, sneezing etc.

#### **5. SAMANAN (Nadukkal):**

It corresponds to the solar plexus in the naval region and controls digestion. It acts as a neutralizing air for the upward and downward air (abana & udhana). Its derangement will cause gastrointestinal symptoms and neurological, respiratory symptoms as this vayu is the neutralizing force for the other four vayus.

#### **6. NAGAN:**

Nagan is responsible for the intelligence of an individual. It causes opening and closing of eyelids. Its derangement causes impaired memory and lack of coherence.

#### **7. KOORMAN:**

This causes yawning and closure of eyelids. This is responsible for vision lacrimal secretion is also attributed to koorman. It gives energy to the body and helps in body building.

#### **8. KIRUGARAN:**

This lies in the tongue, salivary glands, nasal secretion, hunger, concentration of the mind on one particular thing, sneezing, cough are all attributed to kirugaran.

## 9. DEVADHATHAN:

Laziness is attributed to this vayu. The ocular movements, human passions like anger are attributed to this vayu.

## 10. THANANJEYAN:

It produces swelling all over the body and leaves from the body by blowing of the cranium only on the third day after death. This vayu is responsible for decay of the body after death.

## FACTORS WHICH ALTER VATHAM:

1. When hot food are mixed with vatham, vatham gets thannilai valarchi
2. When cold is mixed with vatham, vatham gets vetrunilai valarchi
3. And when oily foods with hotness are mixed with vatham, vatham neutralizes in its own property that means healthy conditions.

“வாயுவின் குணத்துடன் சூடனுதல்

வாயுவினி டங்களில் நோய்களுண்டு

வாயுவில் குளிர்ச்சிதான் கூடிடலோ

வந்திடும் நலிகனும் வேறிடத்தே

வாயுவில் அனல்தரும் நெய்பமைந்தால்

வாயுவும் அடங்கிடும் வாய்மையிது

வாயுவின் பிணிகளைப் போக்கிடவே

வகுத்திடும் முனிமொழி கண்டிடுமே”

சித்த மருத்துவாங்க சுருக்கம்

## ALTRATION OF VATHAM:

Vatham is specilised in aadi, aavani, purattai and ippasi physiologically.

Pathologically, the three humours are affected either themselves or with udal-thaadhukal.

The types of alterations of vatham are;

#### **THANNILAI VALARCHI:**

##### **DEFINITION:**

A kutram, which is provoked in its own locations, is called “ Thannilai valarchi”

##### **LIMITATIONS:**

Hatefulness of the things which are causing thannilai valarchi and likeness of the things which are getting opposite properties are the limitations of thannilai valarchi.

##### **DURATION:**

Vatham gets thannilai valarchi during mudhuvenir kaalam (Aani and Aadi)

#### **VETRUNILAI VALARCHI:**

##### **DEFINITION:**

A kutram, which is provoked in its other locations, is called “ vetrunilai valarchi”.

##### **LIMITATIONS:**

Signs and symptoms of the other kutram and the pathological conditions of the udal thaadhukkal give the details of the limitations.

##### **DURATION:**

Vatham gets “vetrunilai valarchi” during kaar kaalam (Aavani and Purattasi)

**THANNILAI ADAIDHAL:****DEFINITION:**

A provoked kutram, which is neutralizing in its own property is called Thannilai adaidhal.

**DURATION:**

A provoked vatham neutralizes during koodhir kaalam (Ippasi and Karthigai).

**THE FEATURES OF AGGRESSION OF VATHAM:**

1. Body weakness and darkness
2. Liking to eat the hot foods
3. Shivering
4. Abdominal distention
5. Constipation
6. Diminution of immunity
7. Insomnia
8. Giddiness
9. Laziness
10. Body ache
11. Nerve weakness
12. Pricking pain
13. Weakness of limbs
14. Muscular wasting
15. Paralysis of limb
16. Polydipsia
17. Thirst
18. Excessive sweating

**THE FEATURES OF DEPRESSION OF VATHAM:**

1. Stiffness

2. Diminution of voice
3. Impaired intellectual function
4. Semi- consciousness
5. Difficulty in doing any kind of work
6. Paleness and coolness of the body
7. Anorexia
8. Excessive salivation
9. Heaviness of body
10. Breathlessness
11. Cough
12. Excessive sleep
13. Abdominal distension

#### **AETIOLOGY OF VATHA DISEASES:**

The common etiological factors of vatha diseases including “Saganavatham” have been described generally in Yugi Vaithiya Sindhamani – 800, Agasthiyar Kanma Kaandam – 300 and Agasthiyar Gunavagadam.

#### **1. IN YUGI VAIDHIYA SINDHAMANI – 800:**

“என்னவே வாதந்தா ணெண்பதாகும்

இகத்திலே மனிதர்களுக் கெய்யுமாறு

பின்னவே பொன்னதனையே சோரஞ்செய்து

பெரியோர்கள் ----- தூடனித்தும்

வன்ன தேவச் சொத்தில் சோரஞ்செய்து

மாதாபிதா குருவை மறந்த பேர்க்கும்

கன்னவே வேதத்தை நித்தை செய்தால்

காயத்திற் கலந்திடுமே வாதந்தானே”

பாடல் - 243

“தானென்ற கசப்போடு துவர்ப் புறைப்பு  
சாதகமாய் மிஞ்சுகிலும் சமைத்த வன்னம்  
ஆனென்ற வாறினது புசித்த லாலும்  
ஆகாயத் தேறலது குடித்தலாலும்  
மானென்ற புகலுரைக்க மிராவிழிப்பு  
பட்டினியே மிகவுறுதல் பார மெய்தல்  
தேனென்ற மொழியோர் மேற்சிந்தை யாதல்  
சீக்கிரமாய் வாதமது செனிக்குந் தானே”

பாடல் - 244

“ஆனான வரன்றனையே மதியாந்தர்  
அகதி -----கட் கன்ன மீயார்  
கோனான குருமொழியை மறந்த பேர்கள்  
கொலை களவு பொய்காமங் குறித்த பேர்க்கு  
ஊனான சடந்தன்னில் வாதம் வந்து  
உற்பவிக்கும் வேதத்தின் உண்மைதானே”

பாடல் - 253

“மகரவே வாதமது கோபித் தப்போ  
பண்பாக பெண்போக மதுதான் செய்யில்  
நகரவே வெகுதூர வழி நடக்கில்  
நளிரான காற்றுமே பணிமேற் பட்டால்  
மிகரவே காய்கள் கனிகிழங்கு தன்னை  
மிகவருந்தி மீறிய தயிர்தான் கொண்டால்

முகரவே முதுகெலும்பை முறுக்கி நொந்து

முழங்காலும் கணைகாலும் கடுப்பு உண்டாகுமே”

பாடல் - 285

1. Breach of trust
2. Abusing the elderly people and priests
3. Exploitation of charitable properties
4. Ingratitude with mother, father and teacher
5. Excessive consumption of bitter, astringent and pungent taste foods
6. Intake of very hot rice or rice proceeded earlier
7. Drinking rain water directly
8. Sleeping during day and awakening during night
9. Undue starvation
10. Lifting or carrying of heavy loads
11. Lust
12. Disregarding the advice of preceptors
13. Refusing food for destitute and hermits
14. Disrespectful attitude with god
15. Walking for long distance
16. Exposure to chillness
17. Indulging in sexual act during exaggerated vatham
18. Involving in murdering, stealing, lying and lustful activities
19. Excessive intake of curd immediately after of vegetables, fruits and tubers will lead to twisting pain in the vertebral column and pain in ankle and knee joints.



## CLASSIFICATION OF VALI DISEASES:

Various siddha texts give different classification of vali as follows

S. NO	NAMES OF THE SIDDHA TEXTS	TYPES
1.	Yoogi vaithiya sindhaamani perunool – 800 “என்னவே வாதம் எண்பதாகும்”	80
2.	Yoogi vaithiya sindhaamani perunool – 800 (In the concluding section) “ஆமப்பா வாதம் தெண்பத்து நாலு அதனுடைய குணாகுணங்க லடங்கலாக”	84
3.	Agasthiyar – 2000 “எண்பது வாதமாகு மிருவகைப்படுத்திக் காணின் நண்பறு அரைக்கு மேலே நாற்பது வாதமாகும் பண்ணேரரைக்குக் கீழே பத்து நாங்காகுமென்று வண்டுசேர் குழலினாளே வாதத்தின் கூறுதானே”	80
4.	Bogar vaithiyam – 700 “வாச்சென்ற வாதம் எண்பதுவும் போகும்”	80
5.	Agasthiyar rathina surukkam – 500 “மற்றமே வாதரோகம் வகை எண்பத்து நாலே”	84
6.	Ashtaanga sangiragam	85
7.	Noi naadal and Noi mudhal naadal – part II	85
8.	Theraiyar vaagadam	81
9.	Thanvandhiri vaidhiyam	80
10.	Jeeva rakhamirtham	80
11.	Agasthiyar gurunaadi - 235	84

## CLINICAL FEATURES:

The signs and symptoms of vali diseases have been given in many siddha classical text books as follows;

### IN AGASTHIYAR NAADI:

“சொல்லவே வாத மது மீறிற்றால்

சோர்வடைந்த வாயுவினால் தேகமெங்கும்

மெல்ல கைகால் அசதி யுண்டாகும்

மெய்முடங்கும் நிமிரவொண்ணாத திமிர் உண்டாகும்”

- அகத்தியர் நாடி

1. Weakness of limbs
2. Sluggishness
3. Stiffness and
4. Numbness

### IN THERAIYAR VAAGADAM:

“வாதவீறு அன்னமிறங்காது கடுப்புண்டாம் வண்ணமுண்டாம்

மோது கட்டு ரோகம் கரமுண்டா மிருமலுமா முறங்காதென்றும்

ஓது தூரிய வாதமனலொடு நடுக்கமுண்டாம் பொருள்களாய்ந்

தீதெனவே நரம்பிசித்து சந்துகள் தோறும் கிடுக்குந் தானே”

- தேரையர் வாகடம்

1. Pain in the joints

### IN AGASTHIYAR - 2000:

“வாதத்தின் குணமேதன்னில் மயக்குந்தியெங்கும் மலர் சிவக்கும்

பாதங்குளிர்ந்து சருவாங்கம் பற்றி நடக்குமுகங் கடுக்குஞ்

சீதத்துடனே வயிறு புண்ணாஞ் சிரிப்பித் ததுந்தெறி முச்சாம்

**போதத் தண்ணீர்தான் வாங்கும் புகழும் பஞ்ச குணமாமே”**

1. Giddiness
2. Stabbing pain in the face
3. Numbness in the limbs

**IN THERAIYAR VAAGADAM:**

**“தக்கவாயு கோபித்தால் சந்துவுளைந்து தலைநோவா**

**மிக்கமூரி கொட்டாவி விட் டங்கெரியு மலங்கட்டும்**

**ஓக்க நரம்புதான் முடனங்குமலர்ந்து வாய்நீ ரூறிவரும்**

**மிக்ககுளிரும் நடிக்கமுமாய் மேனி குளறி வருகங்காணே”**

**பாடல் - 42**

1. Headache
2. Paralysis
3. Constipation
4. Pain in the joints
5. Tremors

**NAADI NADAI:**

In vali diseases, the following stages of naadi are noted generally

1. Exaggeration of vali naadi
2. Vali azhal thondha naadi
3. Vali iya thondha naadi
4. Iya vali thondha naadi and
5. Iya azhal thondha naadi

## **SAGANA VAADHAM:**

### **DEFINITION:**

A vaadha disease, which is formed due to the compression of cervical spine nerves, Which are passing along the two sides of cervical vertebrae and the adjacent arteries.

“ Sgana vaadham” is one of the vaadha diseases, which is describe in “ Yoogi munivar vaidiya sindhamani perunool-800”, T.V. Sambasivam pillai says in his agarathi. It is a condition which deals with the involvement of upper back of pain in the neck, radiating pain in upper limb, feeling heaviness of body, mental depression, giddiness and burning sensation of the eye and constipation.

### **SIGNS AND SYMPTOMS:**

**“கேளுமே கழுத்தின் கீழரைக்கு மேலும்**

**கெடியான கரமிரண்டு மிகவே நொந்து**

**வாகுமே சரீர மெல்லாங் கனத்திருக்கும்**

**வாலிபர்க்கு மனங் கண்ணு மயக்கமாகும்**

**ஏறுமே இரண்டு கண்ணும் எரிச்சலுண்டாம்**

**ஏற்றமாய் மலந்தானும் இறுகிக் காணும்**

**தேளுமே கொட்டினது போற் கடுக்கும்**

**சகன வளிநோயுனும் தீர்க்கந் தானே”**

**- யுகி வைத்திய சிந்தாமணி 280**

1. Pain in the neck.
2. Radiating pain to the shoulder and upper limb,
3. Heaviness of body
4. Mental depression

5. Giddiness
6. Burning sensation of the eyes
7. Constipation
8. Tingling sensation and numbness of the upper limb.

### **PINIYARI MURAIMAI (DIAGNOSIS):**

It is very important part of the treatment, it is helpful to select the correct line of treatment and good prognosis. It is based upon the following diagnosis methods.

#### **1. PORIAAL ARITHAL:**

The physician should examine the patient's porigal by his porigal.

1. Mei - Feels all type of sensation
2. Vaai - For knowing taste
3. Kan - Meant for vision
4. Mookk - For knowing the smell
5. Sevin - For hearing

#### **2. PULANAAL ARIDHAL:**

The physician should examine the patient's pulangal by his pulanga

1. Hearing - Ear
2. Vision - Eye
3. Taste - Tongue
4. Sensation - Skin
5. Smell - Nose

## **2. VINAADHAL:**

The physician should interrogate about the patients name, age, occupation , native, socio-economic status, dietetic habits, prone to any allergens, complains, history of previous illness, history of present illness, family history, habits and frequency of attacks, if the patient is in the stage of inability to speak or a child, physician should interrogate the details with his immediate relatives who are taking care of him.

## **ENN VAGAI THERVUGAL:**

The prime method adopted to diagnose the disease is by mean of enn vagai thervugal. The value of Ennvagai thervugal is very important for diagnosing purpose, which is the unique and special method describing in Siddha system of medicine. Hence the diagnosis is made by the following

### **1. Naadi (pulse):**

The study of naadi is the important factor in Envagai thervugal which gives almost the correct diagnosis, Naadi may studied at 10 points which are Heel, Genital organ, Abdomen, Chest, Ear, Nose, Neck, Hand, Eyebrow and Vertex. But the study of naadi at hand is the best because the radial artery is located here superficially. The unique factor which pertaining the soul in the body is known Naaadi.

Naadi must be studied in right hand for men and left hand for women. After the age of fifty, it is reversible that means left hand for men and right hand for women. This may due to senile changes.

The three uyir thaadukkal are formed by combination of

Edakalai + Abanan                      => Vaadham

Pinkalai+ Piranan                      => Piththam

Suhummunai + Samanan              => Kabam

They can be felt one which below wrist on the radial side by means of palpation with tips of the index, middle and ring fingers corresponding of

vaadham, piththam, kabam respectively, The three humours exists in the ratio of 1: ½: ¼ normally, Derangements of this ratio leads to various diseases.

**“கரிமுகநாடியை வாழ்த்திக்**

**கைதனில் நாடி பார்க்கில்**

**பெருவிரல் குலத்தில்**

**பிடித்தடி நடுவே தொட்டால்**

**ஒரு விரலோடில் வாதம்**

**உயர் நடுவிரலில் பித்தம்**

**திரு விரல் மூன்றிலோடில்**

**சிலேத்தும நாடி தானே”**

**- அகத்தியர் நாடி**

Cases of vaadha diseases the following stages of naadi are seen.

1. Exaggeration of vaadham
2. Vaadha pitha thondha naadi
3. Vaadha kaba thondha naadi
4. Kaba vaadha thondha naadi
5. Kaba pitha thondha naadi

## **2. Sparisam (palpation):**

By sparisam, the temperature of skin ( hot and cold), smoothness or roughness, sweat, dryness, hard patches, swelling, growth, of abdominal organ, tenderness, nourishment can be felt.

### **3.Naa (Tounge):**

By the examination of tongue, its colour, coating, dryness, deviation, movements, variation in taste and gums can be noted.

### **4. Niram (Colour):**

By the examination of niram the type of dhegam (Body), cyanosis, redness, pallor and yellowish discoloration can be noted.

Vaadha dhegi – Dark colour

Pitha dhegi – Yellow or Red colour

Kaba dhegi – White or Yellow colour

### **5. Mozhi (speech or voice):**

In the examination of mozhi the pitch of voice (low or high) action of slurring and speech hallucination can be noted.

### **6. Vizhi (Eye):**

By the examination of vizhi, pallor, redness, yellowishness, dryness, lacrimation, sharpness of vision must be noted.

### **7. Malam (Stools):**

By the examination of malam, It's nature, colour, quantity, presence of blood or mucous can be noted.

### **8. Moothiram (Urine):**

The examination of urine is classified in to two types

Neerkuri andNeikuri

Neerkuri:



It includes examination of colour, odour, deposits, quantity and frothy nature.

Neikuri :

Preparation of patient:

Prior to the day of urine examination for neikuri and neerkuri, the patient is advised to take the balanced diet and quantity of food must be proportionated into his appetite. He should have a good sleep.

**METHOD** - After waking up in the early morning urine collected in the glass container must be examined within 1 ½ hours, a drops of gingili oil is added through the side of vitreous without any disturbing. The nature of neikuri should notice in direct sunlight.

Observation:- If the drop of oil,

- |  |                |
|--|----------------|
| 1. Lengthens like a snake                                    | – vaadha neer  |
| 2. Spreads like ring   | – pitha neer   |
| 3. Appears like pearl  | – kaba neer    |
| 4. Spreads like snake in ring, ring in pearl, snake in pearl | – thondha neer |

Besides Enn vagai thervugal, a disease can also be diagnosed by means of other methods namely thinaigal, paruvakaalangal, uyirthaadhukkal, udal thaadhukkal, gnaanendhiriyangal and kanmendhiriyangal, hence through a knowledge about the disease can be studied out systematically and properly in Siddha system of medicine.

### **PITHAM:**

Pitham is located in urinary bladder, heart, head, umbilicus, pinkalai, piraanan, abdomen, stomach, sweat, blood, eye and skin.

It is classified in to five type. They are

1. Anar pitham - it digets all inserted particles

2. Ranjaga pitham - it gives colour to the blood
3. Saadhaga pitham – it is used to complete the work properly what he thinks in the mind
4. Alosaga pitham - it gives vision to the eyes
5. Pirasaga pitham – it gives colour to the skin

### **KABAM:**

Kabam is located in samaanan, semen, fat, bonemarrow, nose, chest, bones, brain, large intestine, stomach and pancreas.

It is divided into five types they are

1. Avalambagam - it controls the other four types of kabam
2. Kiledhagam - it moistens the food
3. Podhagam - it helps to know the taste
4. Tharpagam - it gives cooling effect to the eye
5. Sandhigam – it gives lubricating effect to the joints.

### **UDAL THAADHUKKAL:-**

There are seven udal thaadhukkal in human body they are:

1. Saaram – it strengthens the body and mind
2. Seneer – it gives power, knowledge and boldness to the mankind
3. Oon - it gives a structure and shape to the body and is responsible for the movement of the body
4. Kozhuppu – it lubricates the joints and facilitates their functions
5. Enbu – it protects the all internal organs and gives structure to the body

6. Moolai – it is present in the bones and gives strength
7. Sukkilam or Suronidham – mean for reproduction

#### **GNAANENCHIRIYANGAL:-**

The five gnaanenchiriyangal are:-

1. Mei – feels all types of sensations
2. Vai – for knowing taste
3. Kan – meant for vision
4. Mookku – for knowing the smell
5. Sevi – for hearing

#### **KANMEN DHIRIYANGAL:-**

The five kanmendhiriyangal are:

1. Kai – majority of normal noses done by kal
2. Kaal – for walking
3. Vaai – for speaking
4. Eruvaai – for defecation
5. Karuvaai – for reproduction

#### **THINAIGAL:-**

1. Kurinji – mountain and its surroundings, kaba noigal and liver diseases are common.
2. Mullai – forest and its surroundings, pitha noigal, vaadha noigal, liver diseases are common.
3. Marudham – field and its surroundings, safest place to maintain good health.

4. Neidhal – sea and its surroundings, vaadha diseases and liver enlargement are common.
5. Paalai –desert and its surroundings, vaadha, pitha, kaba noigal are common.

Study five lands is very much needed, as some diseases are common in the particular lands.

#### **PARUVANKAALANGAL:-**

A year is classified into six seasons, each constituting two months

They are,

1. Kaar kaalam – aavani and purattasi
2. Koodhir kaalam – iypasi and kaarththigai
3. Mupani kaalam – maargazhi and thai
4. Pinpani kaalam –maasi and panguni
5. Elavenir kaalam – chithirai and vaigaasi
6. Mudhuvenir kaalam – Aani and Aadi

Some of the diseases,during a particular season are commonly prevalent and study of it will also be much useful to diagnose. The final diagnosis is confirmed by summarizing all the clinical findings observed by the above methods.

#### **NOI KANIPPU VIVAADHAM (Differential Diagnosis):**

There are certain other vaadha diseases, which resemble the clinical symptoms as Sagana Vaadham, but they differ in some ways. The careful and clear History taking and examination will reveal the correct diagnosis. They are

### **A.KUMBA VAADHAM:**

The Clinical features are,

Twitching over the scalp, glossitis, burning pain in shoulder and upper limbs, pain in the hypogastrium, burning sensation in the cheek and eyes

“நவிலவேதோள்மீதும் கரத்தின்மீதும்

நலிந்துமெத்தவாகியே நசவுண்டாகும்

கவிலவேகன்னமொருநயனங்தானுமங்

கடுத்துமேவிறுவிறுப்புமெரிவும்காணும்

துவிலவேதுடிப்பாகும் சிரசுதன்னிற்

சுழற்றியநாபிக்கீழ்வலியுமுண்டாகும்

ஆவிலவே அடிநாக்கில்வழன்றுகாணும்

முவருமேவருகும் பவாதந்தானே.”

-யூகி வைத்தியசிந்தாமணி-800

### **B. PAANIKAMBA VAADHAM:**

The clinical features are

Sleepless, anorexia, shivering of upper limbs, loss of sensation, tingling sensation and numbness of upper limbs

“மார்க்கமாய் வாய்வுமாய் மெய்நி றைந்து

வயிறுதனிற் பசியிலா தானு மற்று

நார்க்கமாய் ஞாலத்து நடக்கை யற்று

நடுக்கமாய் கையிரண்டுந் திமிரு முண்டாம்

ஊர்க்கமா யுறக்கமில்லா துணர்ச்சி யற்று

ஊதறியே சரீரமெங்கும் முலர்ந்து காணும்  
பார்க்கமாய் வாய்விட்டு அலத்த லாகும்  
பானிக் கம்பவாதத்தின் பாங்குதானே.”

-யுகிவைத்திய சிந்தாமணி-800

#### **C. SIRAKAMBA VAADHAM:**

The main clinical features are,

Over sleeping, shivering of head and neck, yawning, deafness, numbness of lower and upper limbs

“கம்பமாய் உதிரகண்ட நரம்பிற் புக்கித்

தலையோடு சரீர மெலாந் தாக்கிப் புக்கும்

கம்பமாய் காதிரண்டு மிகவுங் கேளா

கையோடு காலிரண்டும் வசக் கேடாகும்

நிம்பமாய் நினைவுதான் கலங்கிக் காணும்

நெடுமுச்சங் கொட்டாவி நித்திரை யாகும்

சிம்பமாய் தலைநடுங்கிக் கனப்பு முண்டாக

சிரக்கம்ப வாத மென்றே செப்பலாமே.”

-யுகி வைத்திய சிந்தாமணி-800

#### **D. PEI VAADHAM:**

The clinical features are,

Numbness in the neck and limbs, swelling over the body, pain and swelling in neck, upper limb and lower limb, giddiness, vomiting

“பெற்றியாங் பெருமையாங் காலும் கையும்

பெருவயிறு நெஞ்சோடு விரலு மூக்கும்

ஆற்றியா மெறிகழுத்து மெங்கும் பற்றி

ஏக்கமாய் நொந்துடம் பெங்கும் வீங்கி

உற்றியா முணவே திமிர்த் தெடுத்து

உறுதியாய்ப் பிடிக்கவு மொணாம பொருந்

சத்தியாய் வாய்கசந்து மயக்க மாகுந்

தரித்திட வொண்ணாது பேய்வாதந் தானே.”

-யூகி வைத்திய சிந்தாமணி-800

**E.KADAKIRAAGA VAADHAM:**

The clinical features are, anorexia, breathing from mouth, sweating on face, pain in the throat and occipital region, back ache

“வகையான குரலதனைப் பற்றி நொந்து

மார்போடு பிடரிதனில் வலியுண்டாகி

நுகரான சரீரமெலாம் நொந்த ழாற்றி

நுணுக்கமாய் சுவாசமது புறப்ப டாமல்

முகையான நாவாலே முச்சு மாறி

முகத்திலே வியர்வாகி விலாநோ வுண்டாம்

பகையான வன்னத்தைப் பருகெட்டாது

பரியகண்ட கிராகத்தின் பண்பு தானே.”

-யூகி வைத்திய சிந்தாமணி-800

## **MUKKUTRA VERUPAADUGAL (PATHOGENESIS):**

- 1) Any one or other aetiological factors vitiate vaadhavitiated first.
- 2) Then paitham and kabam are also affected which are in three Dhosha equilibrium.
- 3) And then vaayus, udal kattugal and other structures are also affected.
- 4) When vaadham is vitiated, body weakness, constipation, Diminution of Immunity Giddiness and sleeping disturbances are appeared.

### **5) In pitham**

Apitham-Anorexia, Ranjaga pitham-low haemoglobin level, Alosaga pitham-Diminished vision, Saadhaga pitham-Difficulty to use the neck and upper limbs are affected.

### **6) In kabam**

Avalambagam- Cough, disturbances of the kabams, Tharpagam- Burning sensation of the eyes

Sandhigam- Pain in neck and shoulder joint are affected.

### **7) In vaayus**

Piraanan- cough, Abaanan- constipation, Udhaanan- cough, Viyaanan- Numbness, tingling sensation, pain and stiffness in neck, pain upper limbs, Samaanan- Disturbances of other vaayus, Naagan- Diminished vision, Kirugaran- Sleeping disturbances are affected.

### **8) In udal kattugal**

Saaram- Tiredness, anorexia, mental depression, Senner- Anorexia, low haemoglobin level, Oon- Pain and stiffness in neck, muscle wasting, pain in



upper limbs, Kozhuppu- Immobilisation and crepitation of neck, difficulty to raise the upper limbs, Enbu- Osteophytic formation, pain in neck and upper limb, Moolai- Tiredness heaviness of the body are affected

9) In other structures

Nerves-Pain in neck and upper limb

Arteries - Giddiness, mental depression and other connective tissues are also affected.

### **LINE OF TREATMENT:**

- The antivatha drgs both internal and external application are given to relieve the symptoms and strengthen the affected parts.
- Theraiyar processes like kizhi, ottradam and thattudhal are also applied with above medications for better and quick response.
- Varmam is one of the best therapy for pain management.
- Mercury and sulphur containing drug are more effective to vaatha diseases.

### **INTERNAL MEDICINE:**

- Pancha pashana chendhram, 65 mg, Twice a day, 48 days

### **EXTERNAL MEDICINE:**

- Kurunthotti oil (external application only)

### **VARMAM:**

- Varmam is one of the supporting therapy for pain management

## **3.2 MODERN ASPECTS**

### **ANATOMY:**

#### **THE VERTEBRAL COLUMN:**

The vertebral column which lodges and protects the spinal cord, its meninges, and the continuation of the central nervous system lies in the dorsum of the body. It forms a pillar which contains 33 segments and length about 70cm, in an average male and 60cm in a female. It supports the body weight and transmits it to the ground through the lower limbs. The segment can be divided into cervical, thoracic, lumbar, sacral and coccygeal segments. The cervical segments have 7 vertebral bones, thoracic 12, lumbar 5, sacral 5 and coccygeal 4. All are separate bones except the sacrum and coccyx.

#### **THE CURVATURE OF THE SPINE:**

There are four curvatures in the vertebral column.

Primary – 2, Secondary – 2

#### **PRIMARY CURVATURE:**

The primary curvatures are the thoracic and sacral. They are convex posteriorly.

#### **SECONDARY CURVATURE:**

The secondary curvatures are the cervical and lumbar. They are anteriorly convex. The cervical curvatures become prominent when the child is able to hold its head up and sit up right. The lumbar curvature appears by 12 to 18 months after the child starts walking. A slight lateral curvature seen in upper thoracic region, it is curved to the right in right handed persons and vice versa.

#### **THE GENERAL FEATURES OF THE VERTEBRAE:**

The vertebra can be divided into vertebral body and dorsal vertebral arch. The vertebral arch has two pedicles, seven processes and two lamina. Pedicles are thick bars projecting backward from the body. The lamina are vertical plate like structures, fuses

together to form spinous process. The spinous processes project downwards and are lever for the muscles, the articular processes are 4 in number, bearing the articular facets and articulate with the adjacent vertebrae. Transverse processes project laterally from the junction of pedicle and lamina. In thoracic region they articulate with ribs.

### **INTER – VERTEBRAL DISCS:**

They are fibro cartilaginous discs interposed between the adjacent surface of the vertebral bodies. They are thicker in lumbar region than in thoracic. Their peripheral parts are supplied by the adjacent blood vessels but the central parts are avascular. They receive their nutrients by diffusion from spongy bone of the adjacent vertebrae. The central portion of disc is known as nucleus pulposus and the peripheral zone is known as annulus fibrosus. The central portion is made up of gelatinous mucoid material. On ageing it is converted into fibro cartilaginous material and its water binding capacity is reduced. The annular fibrous contains collagen bundle in the periphery and fibro cartilages tissue in the inner part.

The thickness of the discs varies daily. In the morning it is thick due to absorption of fluids in lying posture, it is thin at night.

### **USES:**

They absorb shock and allow easy movements of the vertebral column.

### **THE CERVICAL VERTEBRAE:**

The cervical segment of vertebral column contains seven vertebrae. The first, second and the seventh are Atypical and the third to sixth are typical. They are smaller and delicate than the thoracic and lumbar vertebrae. All the cervical vertebrae have a foramen in the transverse process known as foramen transversarium. This is identical to the cervical vertebrae.

### **BODY:**

The body is small and broader from side to side than from before backwards. Its superior surface is concave transversely with upward projecting lips on each side. The

anterior border of the surface may be beveled. The inferior surface is saddle – shaped, being convex from side to side and concave from before backwards.

#### **VERTEBRAL FORAMEN:**

Vertebral foramen is larger than the body. It is triangular in shape because the pedicles are directed backwards and laterally.

#### **VERTEBRAL ARCH–PEDICLES:**

The pedicles are directed backwards and laterally. The superior and inferior vertebral notches are of equal size

#### **LAMINAE:**

The laminae are relatively long and narrow, being thinner above than below.

#### **ARTICULAR FACETS:**

The superior and inferior articular processes form articular pillars which project laterally at the junction of the pedicle and the lamina. The superior articular facets are flat. They are directed backwards and upwards. The inferior articular facets are also flat but are directed forwards and downwards.

#### **TRANSVERSE PROCESS:**

The transverse processes are pierced by foramen transversaria. Each process has anterior and posterior roots which end in tubercles joined by the costotransverse bar. The costal element is represented by the anterior root, the costotransverse bar and the posterior tubercle. The anterior tubercle of the sixth cervical vertebra is large and is called the carotid tubercle because the common carotid artery can be compressed against it.

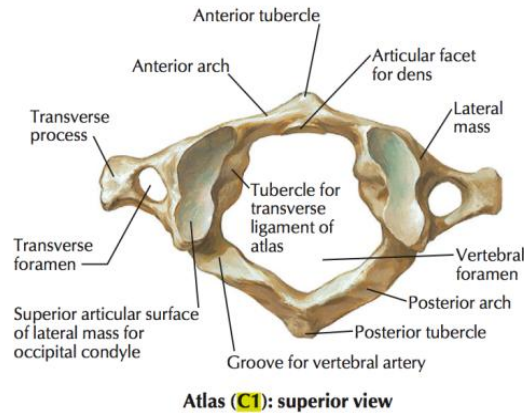
#### **SPINE:**

The spine is short and bifid. The notch is filled up by the ligamentum nuchae.

## FORAMEN TRANVERSORIUM:

It transmits the vertebral artery, vertebral veins and sympathetic plexus.

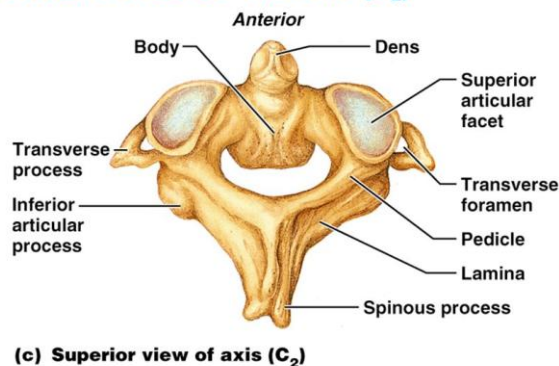
## FIRST CERVICAL VERTEBRA – ATLAS:



It is called as atlas. It is ring shaped. It has no body and no spine. The atlas has short anterior arch, a long posterior arch, right and left lateral masses, and transverse processes. The anterior arch is marked by a median anterior tubercle on its anterior aspect. Its posterior bears an oval facet which articulates with the dens. The posterior arch forms about two – fifths of ring and is much longer than the anterior arch. The transverse process projects laterally from the lateral mass.

## SECOND CERVICAL VERTEBRA – AXIS:

### Cervical Vertebrae: The Axis (C<sub>2</sub>)



The axis has a peg like projection (odontoid process) in the upper part and articulate anteriorly with atlas, two facets on either side of the dens on the upper surface of the body for the articulation of atlas, The spine is large and bifid and the transverse process is small and have a tubercle in its tip.

### **THE SEVENTH CERVICAL VERTEBRAE:**

It is also known as the 'vertebra prominens'. The transverse process does not possess anterior tubercle. The transverse foramen is small and it transmits accessory vertebral vein only. The spine is long.

### **PALPABLE PARTS OF CERVICAL VERTEBRAE:**

1. The spine of C<sub>2</sub> is in the nape of the neck 5cm below the external occipital protuberance.
2. The spine of C<sub>7</sub> where the collar of the neck crosses the posterior midline of the neck.
3. The transverse process of C<sub>1</sub> through the anterior border of sternocleidomastoid, immediately below the tip of the mastoid process.

### **JOINTS OF THE VERTEBRAL COLUMN:**

<b>JOINTS</b>	<b>ARTICULAR ENDS</b>	<b>LIGAMENTS</b>	<b>MOVEMENTS</b>
Atlanto occipital (synovial condyloid)	Superior: occipital condyles Inferior: superior facets of atlas ligaments, joint capsule (occipital) Blood: vertebral artery Nerve: first cervical nerve	1. capsular 2. anterior and posterior atlanto occipital membrane	Flexion Extension Slight lateral flexion

Atlanto axial joint a pair of medial and lateral atlanto – axial joint	Inferior facet of atlas and superior facet of axis	Atlanto – axial 1. capsular 2. longitudinal 3. cruciform Axis – occipital 1. membrane tectoria 2. cruciate ligament 3. apical ligament of dens 4. tear ligament	Rotary movements around a vertebral area
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### **THE UNCO VERTEBRAL (LUSCHK'S JOINT):**

Luschk's joints are not true synovial joint. Which develop as a result of degenerative changes in the edges of the disc in early adult.

It is important, because

1. They are commonest sites of osteophytes formation.
2. The osteophytes may compress the cervical nerves.

### **BLOOD SUPPLY OF THE VERTIBRAL COLUMN:**

The vertebra and longitudinal muscles attached to them are supplied by segmental arteries. The arteries give multiple small branches of the neck are supplied by the occipital, the deep cervical and the transverse cervical arteries.

### **VENOUS DRAINAGE:**

The internal vertebral venous plexus lies within the vertebral canal, but outside the spinal dura. It received tributaries from

- (i) The vertebra through the basilo vertebral veins.
- (ii) The meninges and the spinal cord.

The internal vertebral venous plexus is drained by the intervertebral veins which pass out through inter vertebral foramen. Here they are joined by tributaries from the external vertebral and sacral veins. Above the internal venous plexus communicates with the occipital and basilar veins through the foramen magnum.

### **MOVEMENTS OF THE HEAD AND NECK:**

<b>MOVEMENTS</b>	<b>MUSCLES AND NERVE SUPPLY</b>
1. FLEXION	Sternocleidomastoid, Longus coli, (C <sub>2</sub> ,C <sub>3</sub> ,C <sub>4</sub> ) (C <sub>2</sub> -C <sub>6</sub> ) Longuscapitus, Rectus capitus anterior (C <sub>1</sub> -C <sub>3</sub> ) (C)
NERVE SUPPLY	Ventral ramus of cervical nerves
2. EXTENSION	Splenius cervicitis &capitus, erector spinae, rectus capitus posterior major and minor (C <sub>1</sub> ), Obliquescapitus superior (C <sub>1</sub> ), Trapezius (Accessory)
3. LATERAL FLEXION & ROTATION	Sternocleidomastoid, Scalene (C <sub>2</sub> ,C <sub>3</sub> ,C <sub>4</sub> ) (C <sub>3</sub> - C <sub>8</sub> ) Logus coli, Longismus, Oblique scapitis (C <sub>3</sub> - C <sub>8</sub> ) (C <sub>3</sub> ,C <sub>4</sub> ,C <sub>5</sub> ) (C <sub>1</sub> ) Splenius, Longismu, Oblique scapitus (dorsal) sup &inf, (C <sub>1</sub> )
NERVE SUPPLY	Ventral ramus of cervical nerves

### **SPINAL NERVES**

The spinal cord gives rise to 31 pairs of spinal nerves,8 cervical,12 thoracic,5 lumbar,5 sacral, and 5 coccygeal



Each nerve is attached to the spinal cord by two roots, ventral and dorsal. each dorsal nerve root bears a ganglion.

The ventral and dorsal nerve roots unite (in the intervertebral foramen) to form the nerve trunk, which soon divides into ventral and dorsal rami.

### **Cervical plexus**

The cervical plexus is formed by the ventral rami of the upper four cervical nerves. it supplies some muscular muscles, the diaphragm and areas of skin in the head, neck and chest. its branches are superficial or deep. the superficial branch perforates the cervical fascia to supply muscles. theoretically, there should be 8 sympathetic ganglia corresponding to the 8 cervical nerves, but due to fusion there are only three ganglia- superior, middle and inferior cervical ganglia.

### **Brachial plexus**

The brachial plexus is a union of the lower four cervical ventral rami and the greater part of the T<sub>1</sub> ventral ramus. the fourth ramus usually gives a branch to the fifth and the first thoracic frequently receives one from the second.

Contribution to the plexus from C4 and T2 vary; when the branch from C4 is large, that from T2 is frequently absent from T1 is reduced, forming a prefixed type of plexus. if the branch from C4 is small or absent, the contribution of C5 is reduced, but that of T1 is larger and from the T2 is always present; this arrangement constitutes a post fixed type of plexus.

## **CERVICAL SPONDYLOSIS**

Cervical –Neck region

Spondylosis-Vertebral ankylosis

### **DEFINITION:**

Cervical spondylosis is a disorder characterized by increasing, degeneration of the inter vertebral disc, with subsequent changes in the bones and soft tissues. It is usually

asymptomatic, symptoms are usually manifestation of encroachment on local neural elements such as cervical nerve root, spinal cord, vertebral artery or sympathetic nerves. The symptoms and signs appear to be related to the cause and time course of compression as well as the structures being compressed.

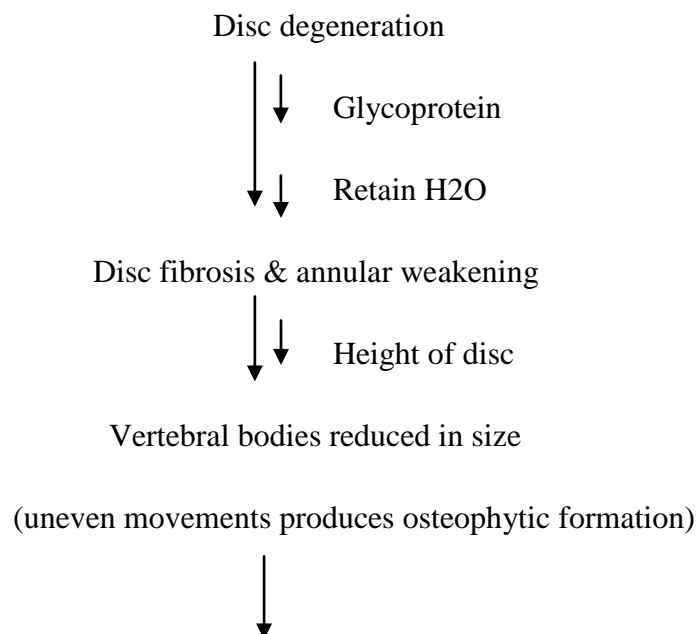
### **AETIOLOGY:**

The primary cause: registration of inter vertebral disc in the aged persons.

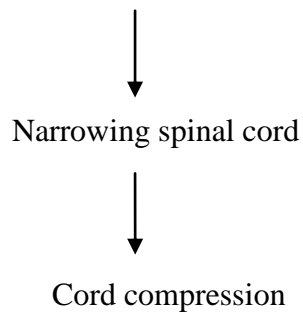
Regeneration:

- Primary: Genetic, Metabolic and manual labour.
- Secondary: Osteoarthritis, RA, Metastatic CA (or) lymphomas either in the bone of the vertebral column as in TB spine.
- ❖ Intervertebral disc protrusion due to degeneration.
- ❖ Osteoarthritis-Degeneration involves in several discs leads to less blood supply to the spinal cord.
- ❖ Injuries-Automobile accident (“whiplash injury”) athletic injury and sudden jerks on the arms during falldown.
- ❖ Outgrowths of bone in aged persons.

### **PATHOGENESIS:**



All joints (disc,zygopophyseal,neurocentral joints)

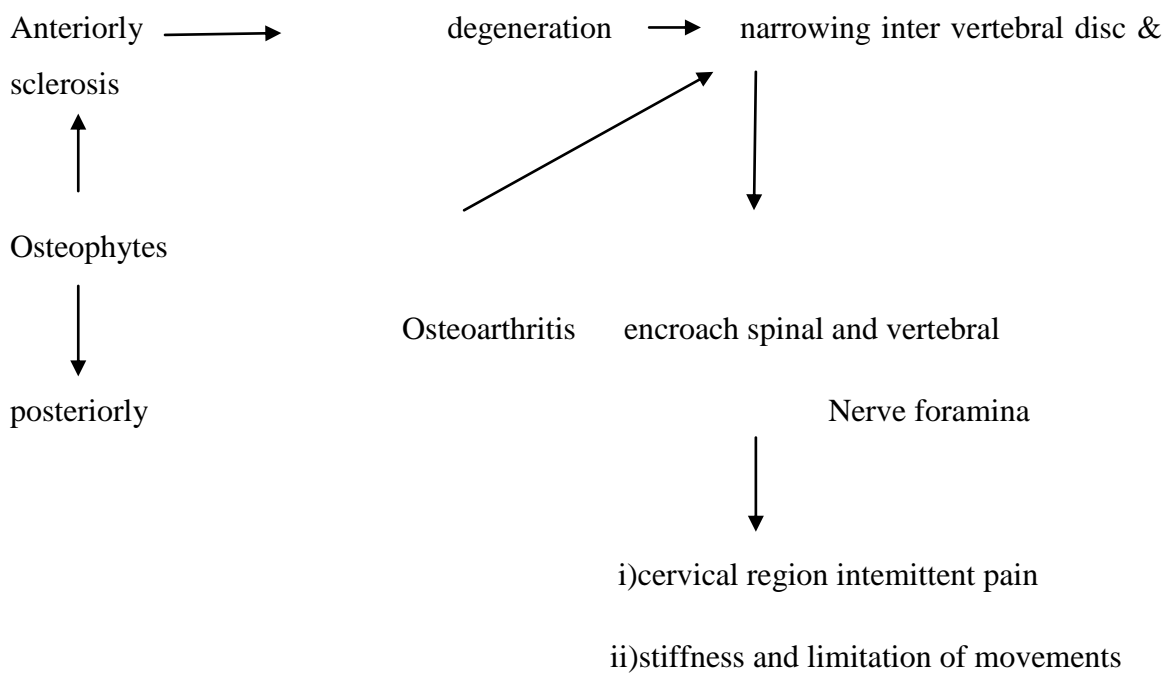


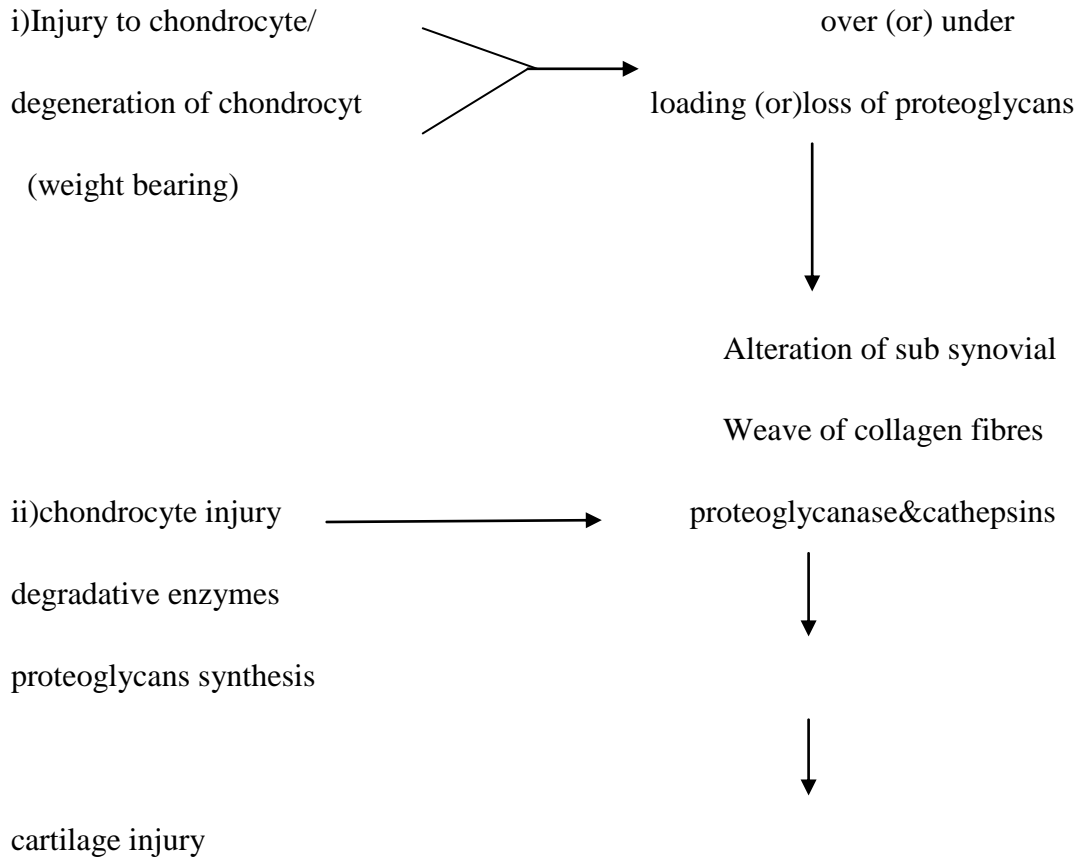
### **PREDISPOSING FACTORS:**

Repetitive movements & chronic flexion of cervical spine, Previous injury with disc prolapsed, Fused vertebrae, Hereditary inter-vertebral disc diseases

### **PATHOLOGY:**

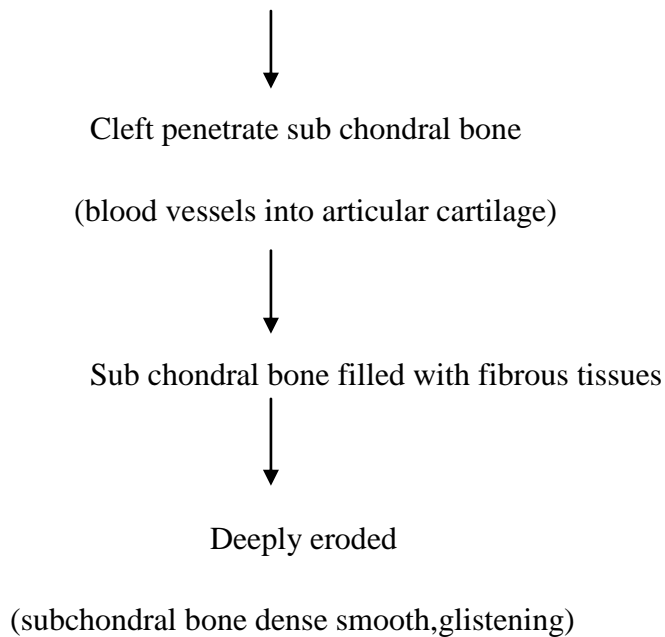
Cervical spondylosis is very common and histological evidence of degenerative changes over the age group of 70.

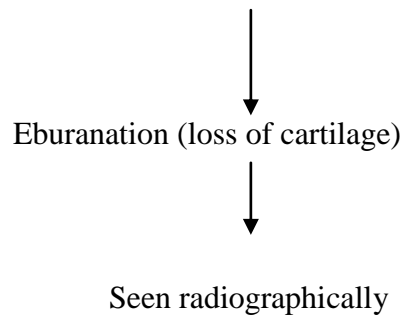




### **MORPHOLOGY:**

Early erosion in cartilage & cleft appears in advanced condition





Osteophytes develop from margins of articular cartilage may sometime extend to the ligamentous and capsular attachment and is called “bone spurs” of osteoarthritis.

Large spurs project from opposing bones come into contact causing pain and limitations to movements. These bony spurs accounts for nodules known as “Heberden’s nodes”.

### **PATHOGENESIS OF MYELOPATHY AND RADICULOPATHY:**

He various factor that play a role are:

Congenital narrowing of spinal canal, Acquired narrowing of spinal canal, Dynamic factors, Vascular factors

(i) Congenital narrowing:

This can be a major cause of myelopathy canal narrowing is usually generalized. But occasionally can be seen at 1 (or) 2 levels from C2-C7. It is seen when canal sagittal diameter is 12mm or less.

(ii) Acquired narrowing: This can be due to

a) Osteophyte

It gives rise to irritational fibrosis of dural sleeve of the nerve.

b) Ossified posterior longitudinal ligament (OPLL)

It is due to new bone formation in ligamentous tissue (or) to the activity of osteoblastic phenotype cells.

c) Facet joint hypertrophy

Foramen narrowing → compression of the nerve root & vertebral artery

d) Hypertrophied ligamentum flavum

Extension → cord compressed by thickened ligament  
in anterior osteophytic ridge  
↓  
more immobile (spondylotic changes)

e) Movement disorders

Chronic movement disorders like torticollis and athetosis can induce premature spondylotic changes in the cervical spine.

f) Trauma

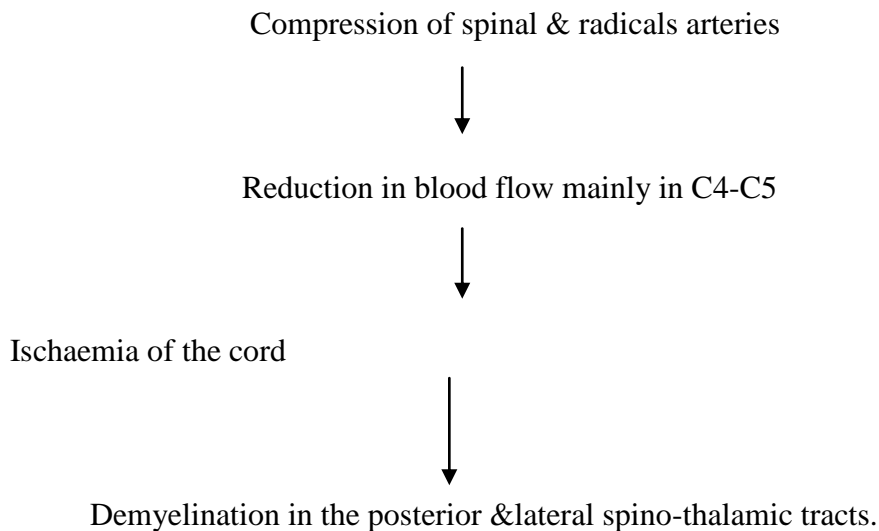
Whiplash injury → structural changes → premature  
Degenerative

disease

(iii) Dynamic factors

The spinal cord moves in spinal canal  
↓  
Cord compression & root [Ant-5cm, Post-2cm]  
↓  
Injuries

(iv) Vascular factors



**COMMON SIGNS & SYMPTOMS:**

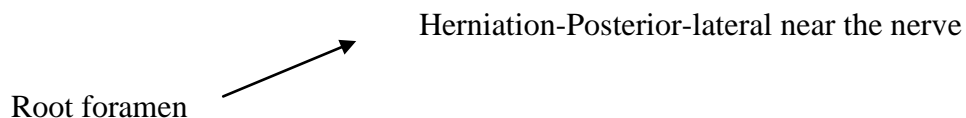
- ❖ Pain in the neck, radiating to the shoulder blades, tip of the shoulders, upper arms and hands or back of the head.
- ❖ Crunching sounds with movement of the neck or shoulder muscles.
- ❖ Numbness & tingling sensation in the arms, hand and fingers, some loss of feelings in the hands and impairment of reflexes.
- ❖ Muscle weakness
- ❖ Neck stiffness
- ❖ Headache, Dizziness & Unsteady gait.
- ❖ With advanced stage, loss of bladder control and leg weakness.

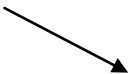
**NEURAL COMPRESSION SYNDROME:**

Most of the patients suffer from either radiculopathy (or) myelopathy.

(i) Cervical Radiculopathy

It is common in young persons because of the herniations.




Compression  Osteophyte-sup articular process with reduced disc height

(ii)Cervical myelopathy

a) Large central disc herniation

Sponylotic changes on congenital narrowed canal

b) Dorsomedial disc herniation  
And Transverse bony bars }  Compression Ant 2/3 of the cord

### **SUMMARY OF THE SITE OF SENSORY DISTURBANCE'S WITH INDIVIDUAL ROOT:**

NERVE ROOT	DISC LEVEL	SYMPTOMS
C <sub>3</sub>	C <sub>2</sub> -C <sub>3</sub>	Pain and numbness in back of the neck, mastoid process and pinna of ear
C <sub>4</sub>	C <sub>3</sub> -C <sub>4</sub>	Pain and numbness in back of the neck, levator scapulae and anterior chest.
C <sub>5</sub>	C <sub>4</sub> -C <sub>5</sub>	Pain in the neck, tip of shoulder, anterior arm, numbness over middle of the body of deltoid muscles.
C <sub>6</sub>	C <sub>5</sub> -C <sub>6</sub>	Pain in the neck, shoulder, medial border of the scapula, lateral arm, dorsal forearm, numbness of tip of thumb or dorsum of hand over first dorsal intersseus muscle.



C <sub>7</sub>	C <sub>6</sub> -C <sub>7</sub>	Pain in the neck, shoulder, medial border of the scapula, lateral arm, dorsal forearm, sensory change index and middle finger
C <sub>8</sub>	C <sub>7</sub> -T <sub>1</sub>	Pain in the neck, medial border of scapula, medial aspect of arm and forearm, sensory changes in the ring and little fingers.

### **CLINICAL FEATURES:**

Trauma or hypertension injury

- Onset insidious & painless and acute deterioration
- Upper motor signs develop in the limbs with spasticity of the leg.
- Dermatomal sensory loss is common in upper limbs, while pain, temperature, joint & position sense impaired in legs.
- Neurological deficit: -progress gradual disturbance of control of micturation in later stage.

Constipation present but in severe paraplegia there may be incontinence of faeces

### **RADICULO MYELOPATHY:**

A combination of radiculo and cord symptoms is reduced.

Pain in the back and occipital area, paraesthesia and weakness of upper limbs early, paralysis of 9<sup>th</sup>, 10<sup>th</sup> and 11<sup>th</sup> cranial nerves, a lower part of trapezius, supraspinatus and diaphragm may occur, exaggerated deep tendon reflexus, absence of abdominal & cremasteric reflexus, extensor plantar on both sides, sphincters affection.

#### **1. ALL THE LEVEL OF C<sub>5</sub>:**

Quadriplegia, paralysis of deltoid, biceps, brachialis, rhomboideus and supinator muscles, diminished biceps (C<sub>5</sub> – C<sub>6</sub>) and supinator (C<sub>5</sub> – C<sub>6</sub>)

## **2. AT THE LEVEL OF C5:**

Quadriplegia, paralysis of deltoid, biceps, brachialis, rhomboideus and supinator muscles, diminished biceps(c5-c6) and supinator (c5-c6) jerks, Exaggerated triceps jerks and inversion of the radial reflex may occur.

## **3. AT THE LEVEL OF C5-T12:**

Signs of lower motor neuron lesion, segmental sensory loss in upper limbs and signs of upper motor neuron lesion in the lower limbs may occur.

## **4. AT THE LEVEL OF C6:**

Paraplegia, paralysis of triceps, extension of wrist and fingers, loss of triceps(c6-c7) jerks.

## **5. AT THE LEVEL OF C8-T1:**

Spastic paralysis of trunk and lower limbs, paralysis of flexor of wrist, fingers and small muscles of hand and exaggeration of lower limbs tendon reflexes.

## **AUTONOMIC SYMPTOMS:**

Various autonomic symptoms can be produced by disc disease(e.g) vertigo, flushing, tinnitus and visual blurring. These are mediated by the sympathetic contribution to the sinuvertebral nerves. It also results in fall of BP, sweating and increased intestinal motility.

Spondylotic changes at the uncovertebral joint may produce similar changes.

## **VERTEBRO-BASILAR INSUFFICIENCY:**

VBI is due to spondylitic compression of vertebral arteries

Rotation to one or both sides, Extension of neck, less frequently flexion

1. Movement of the head,
2. Pressure on vertebral arteries,
3. Impairment of the blood supply to the brain,
4. Persistent VBI strikes

## **INVESTIGATION:**

1. plain x-ray of cervical spine show ( ap, lat& bilateral oblique view)

Disc space narrowing, Osteophyte formation (anterior and posterior marginal lipping of the vertebral bodies), Degeneration in facet and unc vertebral joints, Foramen stenosis (oblique), Loss of normal alignment and curve of the vertebrae (lateral view), Reduction of canal width from 17mm to 13mm (relative stenosis) or 1mm (absolute stenosis), Loss of cervical lordosis

2. myelogram-may show compression of the spinal cord

3. C.T.Scan (computerized tomography)

Confirms degenerative changes, May demonstrate post osteophyte & disc herniation

4. MRI scan(magnetic resonance imaging)

Neural compression, Intrinsic cord analysis, Disc degeneration, Examination of cerebro spinal fluid very high protein

5. Other test-nerve conduction studies.

## **DIAGNOSIS:**

Diagnosis is made with clinical features of cervical radiculopathy & myelopathy that diagnosis is confirmed by the radiography, myelography , tomography, magnetic resonance imaging and examination of CSF.

## **DIFFERENTIAL DIAGNOSIS:**

- (i) Radiculopathy

the symptoms of lesion of the brachial plexus, such as neuro fibroma, the thoracic outlet and pancast tumor are superficially similar to those of disc diseases.

Carpal tunnel syndrome, Impingement, Cervical tumour, Thoracic outlet syndrome and, Pan coasttumour

### **MYELOPATHY:**

Multiple sclerosis, Cerebro vascular disease, Intra cranial tumour, Syrinx, Spinal cord ischemia, Myopathies and neuropathies, Syringobulbia and syringomyelia and Tabes dorsalis

### **COMPLICATION:**

Pseudoarthrosis, Graft displacement, Neurological injury and Spastic gait and Injury to other structures

Recurrent laryngeal nerve, Superior laryngeal nerve, Carotid artery, oesophagus

### **MANAGEMENT:**

1. Non operative - Analysis, Local modalities, exercise program and cervical traction
2. Operative - Operative treatment should be considered, in the presence of intractable pain, where there is evidence of radiculopathy and myelopathy, where osteophytes are producing vertebra basilar insufficiency

### **CERVICAL RADICULOPATHY:**

Conservative treatment with analgesics and a cervical collar results in resolution of symptoms in the great majority of patient. In chronic complicated cases foraminectomy or disc excision to be recommended.

### **CERVICAL MYELOPATHY:**

Surgical procedures including laminectomy and anterior excision of disc may arrest progression in disability but do not usually result in neurological improvement and carry a significant risk particularly in the elderly the judgment as to where surgery should

be undertaken may be different ,manipulation of the cervical spine is no proven benefit and may precipitate acute neurological deterioration.

### **PHYSIOTHERAPY:**

In acute exacerbation of disease affecting the cervical spine, rest may be the initial treatment.

### **CERVICAL COLLAR:**

Cervical collar are advised to wear temporary collar (plastazole)for day time restrict movement and a soft collar for support a night. they should not drive because judgment of relative distances will be impaired. this collar also advised to the suffers in VBI.

### **CERVICAL TRACTION:**

Vertebral traction should be the first choice for nerve root pain atleast once a day. It applied a stretch a muscles, ligaments and tissue components of the cervical spine. it provides relief by promotion separation of the inter vertebral joint space which contains the disc and may reduce a “bulge” or impingement of structures with in the foramen. It is not indicated for use in condition of instability such as with “whiplash” injury.

### **PROCEDURE:**

It is most commonly used when the patient is in the supine position lying on the back with knees bent at a 45 degree angle with the neck placed at 20 degree to 30 degree of the flexion (forward tilt).

### **USES:**

This method helps to stretch the post neck muscular facilitate intervertebral separation and relieve the pressure that may be pinching nerves.

## **EXERCISE FOR CERVICAL SPONDYLOSIS:**

The exercise should be done sitting and the feet must rest on the floor or stool. This should be done in front of a mirror, in order to get correct movements

### **1. Static head and neck exercise:**

No movement takes place, muscles are strengthened. place your hand on your forehead with the hand stop forehead from bending forwards 3 times increase to 5.

2. Place the hand behind the head, with yours hand stop the head from bending backwards-3 times increase to 5.

3. Place right hand on right cheek and ear. stop the head from bending on right side 3 times increase to 5.

4. Place the left hand on left cheek and ear, stop the head from bending on left side-3 times increase to 5.

5. place the right hand in right lower jaw stop the head from turning to right is 3 times increase to 5.

6. Place the left hand in left lower jaw stop the head from turning to left side 3 times increase to 5.

7. In other words give resistance with your hands to work the muscles as much as possible. Continue the above static exercise. if these suit otherwise discontinue the static exercise.

### **2. Exercise for shoulder:**

Arms lift forwards up and down 5 times increase to 7-10 times.

Arms lift sideways, up and down-5 times increase to 7-10 times.

Arms lift forwards, part and together-5 times increase to 7-10 times.

### **FINGERS ON THE SHOULDER WITH ELBOW BENT:**

- (i) Elbows circulating forwards, upwards, backwards & downwards-5 times increase to 7-10 times.
- (ii) Elbow circulating backwards, upwards, forwards & downwards-5 times increase to 7-10 times

Shoulders bracking-5 times increase to 7-10 times.

Right hand meeting left hand at the back (right hand to be carried above the right shoulder, left hand carries from the left side at the back and try to touch the right hand.

Repeat the left hand carried above the left shoulder and the right hand turned in carried from the side of trunk-3 times each side, increase to 5-7 times.

### **INSTRUCTIONS:**

Do not getting look down to read (or do any other work).bring the reading materials to the eye level, All the neck movements can be performed with practice, by using trunk movements, Use a low level pillow supporting the head and neck, pillow line up to the shoulders level, otherwise not to be encouraged.

While lying on sides, head should be in neutral position. (ie) if you are lying n right side, place a pillow to support your left arm.

### **PREVENTION:**

Avoid sitting in cramped position, sleep without pillows, use a soft fabric collar or towel to support the neck, avoid injury, water protective headgear to contact sports, use seat belts in vehicles, keep head rests at proper height.

### **PROGNOSIS:**

The assessment of prognosis is attained by studying the pathological conditions of the spinal cord and nerve roots, improvement can be felt with some of the reversible

changes with drug treatment. in complicated cases improvement is not possible. the sign& symptoms due to myelopathy are immanageable.

Long history of suffering multiple disc lesions and in severe comparison of spinal cord may be adversely affect the prognosis.



## **DRUG REVIEW**

### **3.3 INTERNAL MEDICINE - PANCHA PASHANA CHENDHURAM:**

#### **INTRODUCTION OF METALS AND MINERALS:**

Elements have been broadly divided into metals and non- metals on the basis of their physical and chemical properties. The 108 elements known at present, about 70 are metals. We shall study the occurrence and general methods used for the extraction of metals from their ores. Metals occur in nature sometimes free but mostly in the combined state. The earth's crust is the biggest source of metals. Some soluble salts of metals are also found in sea water. Metals are two state Native states, combined state. Metals occur in metallic is native state. Native metals occur in nature in the form their compound in the combined state. These compounds are known as minerals. The minerals from which metals can be conveniently and economically extracted are referred to as ores. The process of extracting metals from their ores is called metallurgy.

#### **INTERNAL MEDICINE:**

#### **INGREDIENTS:**

##### **GROUP-I**

- P. THALAGAM (Arsenic trisulphidium)
- P. LINGAM (Red sulphide of mercury )
- P. RASAM (Hydrargyrum)
- P.GANTHAGAM (Sulphur)
- P. VELLAI PASANAM (white arsenic)
- P. MANOSILAI (Red orpiment)
- P. KAANTHAM(Magnetic oxide of iron)

## **GROUP-II**

- Kuppaimeni(*Acalypha indica*)
- Vettrilai(*piper betel*)
- Paruthi (*Gossypium hirsutum*)
- Vellerukkan(*Calotropis procera*)
- Thulasi(*Ocimum sanctum*)
- Uthamani (*Pergularia daemia*)
- Poduthalai(*Phyllanthus nodiflorus*)

## **GROUP-I INGREDIENTS:**

### **1. RASAM (HYDRARGYRUM) – MERCURY:**

Rasam comes under the division “Pancha sootham.” It is separated from its ore Cinnabar, The Mercury obtained from cinnabar is considered as pure and suitable for medicinal purposes. Mercury is otherwise called as quicksilver. Mercury is the only common metal which is liquid at ordinary temperatures. Mercury is heavy, silver white liquid metal. Mercury alloys easily with many metals, such as gold, silver and tin. These alloys are called amalgams. Mercury is not commonly found in plant products, but it can enter human bodies through vegetables and other crops, when sprays that contain mercury are applied agriculture.

### **OTHER NAMES OF MERCURY:**

Sootham, Punniyam, Bharatham, Inimai, Sivasakthi According to ‘Dasanga nigandu’

### **TASTE:**

Six tastes dominated by sweet.

**ACTIONS:**

Tonic, Alternative

**POTENCY:**

Hot and cold (both speciality)

**TYPES OF MERCURY:**

Mercury is classified into five types. It is made up of five basic elements on which it is classified into five according to the on basic elemental ratio.

Rasam, Rasendhiran, Sootham, Misaragam, Baaratham

**GENERAL PROPERTIES OF MERCURY:**

IUPAC NAME : Hydragyram

SYMBOL : Hg

ATOMIC NO : 80

PHASE : Liquid

MELTING POINT : 38.9<sup>0</sup>C (234.3210 K)

BOILING POINT : 356.6<sup>0</sup>C (629. 88

**பொதுகுணம்**

“விழிநோய்கிரந்திகுன்மம்மெய்ச்சூலைபுண்குட்

டழிகாலில்விந்துவினால்அத்தை – வழியாய்

புரியுவிதியாதுபுரியினோயெல்லாம்

**இரியுவிதியாதுமில்லை.”**

Cures the diseases of eyes, syphilis, 8 types of ulcers (gunmam), throbbing Pain(Soolai), chronic ulcer (Perum pun), leprosy and Hansen’s diseases

**BENEFICIAL PROPERTIES:**

It prevents senility and increases the life span, improves blood and sperms, purifies blood, cures the diseases of internal organs of the body, strengthens the nerve plexuses.

**2. VELLAI PAADANAM (WHITE ARSENIC):**

This is obtained from nature in the land. It is mostly available in combination with other metals such as sulphur, iron, copper etc.

**OTHER NAMES OF VELLAI PAADANAM:**

Vellai, Sangu, Paadanam

**ACTIONS:**

Tonic, Alternative, Nerves tonic, Appetizer, Anti - pyretic

**GENERAL PROPERTIES OF VELLAI PAADANAM:**

IUPAC NAME : White arsenic

SYMBOL : As

ATOMIC NO : 33

PHASE : solid

MELTING POINT : 312.2<sup>0</sup>C

BOILING POINT : 465<sup>0</sup>C

**பொதுகுணம்**

**“வெள்ளைப்பா டாணம் விடங்கடிதீ ரும்பூசக்**

**கொள்ளைச் சுரத்தோஷங் கோரசந்தி - தொள்ளையுறு**

**நாசிப்புண் வாய்ப்புண் நனைகிரந்தி போமுண்ண**

**ஆசிக்குங் கும்பமுலை ஆய்.”**

When used in small dose, it stimulates the appetite, improves body strength, removes neurasthenia, reduce fever. It also stimulates the heart, lung, bowels and reproductive organs. It is also considered that it generally improve the resistance to infection.

Arsenic trioxide has been found to be effective in the treatment of epidemic fever, poison bite, delirium, ulcer of the nose and mouth and venereal ulcers. Further, this also effective in the treatment of filarial fever, skin diseases, asthma etc.

### **3. LINGAM (RED SULPHIDE OF MERCURY):**

Red sulphide of mercury used by us, is called as jathi linga paadana, grouped under ‘vaippu paadanam’

#### **OTHER NAMES OF LINGAM:**

Inkuligam, Kadai vanni , Karpam, Vani and vanniKaanjanam

#### **METHOD OF PREPARATION:**

Purified mercury – 280gm, Sulphur – 70gm, Potassium nitrate – 70gm

Mercury is thoroughly mixed and triturated with sulphur. Potassium nitrate is then added. Placed in a conical flask and burnt for 18 hours. After cooling, the red sulphide of mercury is collected out.

#### **ACTIONS:**

Tonic

#### **GENERAL PROPERTIES OF LINGAM:**

IUPAC NAME : Mercury sulphide

SYMBOL : HgS

ATOMIC NO : 80

PHASE : solid

MELTING POINT : 580<sup>0</sup>C

**பொதுகுணம்**

“பேதிசுரஞ் சந்தி பெருவிரண நீரொடுத

காதகடி காசங் கரப்பான்புண் - ணோத

வருவிலிங்க சங்கதமா யூறுகட்டி யும்போகங்

குருவிலிங்க சங்கமத்தைக் கொள்.”

“ஆதி யிரதவுருக் காதலாற் சாதிலிங்க

மோதி லிரதகுண முற்றுடலிற் - நீதுபுரி

குட்டங் கிரந்தி கொடுஞ்சூலை வாதமுத

லுட்டங்குநோய்களையோட்டும்.”

It has the properties of curing the diseases caused by the earth element and cures the diseases caused by the water element.

#### **4. THAALAGAM (YELLOW ARSENAIC TRI SULPHIDE):**

Yellow arsenic trisulphide is as such available alone in India in small quantities. It is also available in combination with iron. Though most of the western countries do not use this medicine for internal administration, it is used for internal administration in small quantities in India. If it is heated it produces bluish coloured smoke.

#### **OTHER NAMES OF THAALAGAM:**

Peethagi, Aalambi, Paluppu, Arithaaram, Maalam, maaldevi

#### **ACTIONS:**

Alterative, Tonic, It cure arthritis, Expectorant, Antipyretic, Convalescent

## **TYPES OF THAALAGAM:**

Depending upon the colour, appearance and properties, the yellow arsenic trisulphide has been classified into four types;

1. Sivappu aridhaaram (red orpiment), 2. Madal aridhaaram, 3. Pon aridhaaram (gold orpiment), 4. karattu thaalagam

## **GENERAL PROPERTIES OF THAALAGAM:**

IUPAC NAME	:	Arsenic tri sulphide
SYMBOL	:	As <sub>3</sub> S <sub>3</sub>
ATOMIC NO	:	33
PHASE	:	Ore
MELTING POINT	:	310 <sup>0</sup> C
BOILING POINT	:	707 <sup>0</sup> C

## **பொதுகுணம்**

“தாளகத்தின் பேருரைக்கத் தாலுகவுள் நோய்குஷ்டம்

நீளக் குளிர்காய்ச்சல் நீடுகபம் - நாளகங்கொள்

துஷ்டப் பரங்கிப்புண் துழ்முகண் மண்டைநோய்

கிட்டப் படுபமா கிளத்து.”

It is effective in the treatment of skin disease, disease of head and tongue, fever with chills, prickling pain, itching, vatha disease, eight types of ulcers, poisonous insect bite, tuberculosis and leprosy.

## **5. MANOSILAI (ARSENIC DIULPHIDUM):**

Manosilai is of two types;

1. piravi sarakku, 2. vaippu arakku

vaippu sarakku is obtained by adding 5 parts of arsenic trioxide and 3 parts of sulphur.

## OTHER NAMES OF MANOSILAI:

Silai, Vil, Kunadi, Naanmugan, Thaamarai vaasini

## ACTIONS:

Alterative, Febrifuge, Tonic

## GENERAL PROPERTIES OF MANOSILAI:

IUPAC NAME : Arsenic disulphidum

SYMBOL : As<sub>2</sub>S<sub>2</sub>

ATOMIC NO : 33

PHASE : Solid

## பொதுகுணம்

“கொடிய குஷ்டம் காய்ச்சல் நடுக்கலஜ கல்லியிரைப்

புச்சிலந்திப் பேசறும் னோசிலைக்குப் பேசு.”

This is effective in the treatment of skin leprosy, fever with chills, asthma, eye diseases, urinary tract infections, kapha diseases, cervical adenitis etc. it is also effective for ajakalliga.

## 6. GANDHAGAM (SULPHUR):

Sulphur is bitter and astringent in taste. It is considered that four types of sulphur are present

1. white coloured sulphur that cures all diseases
2. red coloured sulphur
3. golden yellow coloured sulphur
4. black coloured sulphur

In addition, gooseberry sulphur and stick sulphur have been mentioned in most of the text books in ancient siddha medicine. Gooseberry sulphur is the one which I



often used in medicinal preparations. Four other types of sulphur have been mentioned in the sixty – four paadahanas;

1. pirappu gandhagam
2. vaippu gandhagam
3. kozhi thalai gandhagam
4. vaana(stick) gandhagam

#### **ACTIONS:**

Astringent, Laxative, Alternative, Insecticide

#### **TASTE:**

Kaippu, Thuvarppu

#### **EXCRETION:**

Excreted through urine, milk, sweat

#### **GENERAL PROPERTIES OF GANDHAGAM:**

IUPAC NAME	: Sulphur
SYMBOL	: S
ATOMIC NO	: 16
PHASE	: Solid
MELTING POINT	: 115.21 <sup>0</sup> C
BOILING POINT	: 444.6 <sup>0</sup> C

#### **பொதுகுணம்**

“நெல்லிக்காய்க் கந்திக்கு நீள்பதினெண் குட்டமந்தம்  
வல்லை கவிசைகுன்ம வாயுகண்ணோய் - பொல்லா  
விடக்கடிவன் மேகநோய் வீறுசுரம் பேதி  
திடக்கிரசு ணீகபம்போனந் தேர்.”

It also cures 18 types of skin diseases, liver enlargement, chronic joint disorder, leprosy, eczema.

## **7. KAANTHAM (MAGNETIC OXIDE OF IRON):**

There are different varieties of kaantham, such as,

1. kal kaantham
2. oosi kaantham
3. pachai kaantham
4. arakku kaantham
5. mayir kaantham
6. urulai kaantham
7. palagai kaantham
8. thagattu kaantham

In general the magnetic oxide of iron has got the similar properties as iron. However, it is considered that the magnetic oxide of iron is superior to iron in many aspects. This is very effective in the treatment of swelling, ulcer, jaundice, venereal disease, kabha vatha diseases, anasarca, dyspepsia, rheumatic disorder, eye disease, gonorrhea and splenomegaly. It also increases longevity.

### **ACTIONS:**

It cures arthritis

### **GENERAL PROPERTIES OF KAANTHAM:**

IUPAC NAME	: Magnetic oxide of iron
SYMBOL	: Fe
ATOMIC NO	: 26
PHASE	: Solid
MELTING POINT	: 105 <sup>0</sup> C

## பொதுகுணம்

காந்தத்தாற் சோபைகுன்மங் காமிலமே கம்பாண்டு

சேர்ந்ததிரி தோடவெட்டை சீதங்கால்- ஓய்ந்தபசி

பேருதரங் கண்ணோய் பிரமியநீ ராமையும்போம்  
ஓரினிறை யாயுளுறும் உன்.

Consumption of milk boiled in a vessel made up of magnetic oxide of iron, improves blood and strengthens the body. The boiled milk never spoils over in a magnetic vessel.

## GROUP-II INGREDIENTS:

### KUPPAIMENI

## பொதுகுணம்

“தந்தமு லப்பிணிதீத் தந்திடுபுண் சர்வவிடம்

உந்துகுன்மம் வாதம் உதிரமு - லந்தினவு

துலஞ்ச வாசம் தொடர்பீ சங்கபம்போம்

ஞாலங்க்கொள் மேனியத னால்.”

## GENERAL PROPERTIES:

KINGDOM	Plantae
DIVISION	Angiosperms
CLASS	Dicotyledons
SUB CLASS	Monochalmydae
ORDER	Malpigiales
FAMILY	Euphorbiaceae
GENUS	Acalypha
SPECIES	A.indica
BOTANICALNAME	<i>Acalypha indica</i>
ENGLISH NAME	Indian acalypha

PARTS USED	Aerial portion
CHEMICAL CONSTITUENT	Kaempferol, Acalyphamide, cyanogenic glucoside acalyhin, alkaloid flindercin, Tannins, biorodin, nicotiflorin, Acayphine, Triacetoneamine
ACTION	Emetic, Anthelmintic and expectorant
SUVAI-THANMAI- PIRIVU	Kaippu, Karppu – Veppam - Karppu
USES	Asthma, Pneumonia, Intestinal worms Syphilitic ulcers, Rheumatism, Bed sores and constipation.

## VETTRILAI

### பொதுகுணம்

“ஐயம் அறுங்காண் அதன்சாரங் கொண்டக்காற்

பையச் சயித்தியம்போம் பைந்தொடியே! - மெய்யின்

கடியின் குணம் போகுங் காரவெற்றி லைக்குப்

படியுமுத் தோடமிதைப் பார்.”

### GENERAL PROPERTIES:

KINGDOM	Plantae
DIVISION	Angiosperms
CLASS	Dicotyledons
SUB CLASS	Monochalmydae
ORDER	Piperales
FAMILY	Piperaceae

GENUS	Piper
SPECIES	P.betle
BOTANICALNAME	<i>Piper betle</i> L.
ENGLISH NAME	Betel leaf
PARTS USED	Leaf
CHEMICAL CONSTITUENT	Terpenes, Phenolseugenol, Allyl diacetoxy benzene, piperlonguminine, piperene, apigenin dimethyl ether, $\beta$ sitosterol, Chavibitol, Piperbetol, Methyl piperbetol, Piperol A and B
ACTION	Expectorant, Anti oxidant
SUVAI-THANMAI- PIRIVU	Karppu – Veppam – Karppu
USES	Night blindness, Breath freshners, catarrh and diphtheria

## PODUTHALAI

### பொதுகுணம்

“பொடுதலையின் பேருரைத்தால் போராமப் போக்கும்

அடுதலைசெய் காசம் அடங்கும் - கடுகிவரு

பேதியொடு துலைநோய் பேசரிய வெண்மேகம்

வாதமும்போ மெய்யுரக்கும் வாழ்த்து.”

**GENERAL PROPERTIES:**

KINGDOM	Plantae
DIVISION	Angiosperms
CLASS	Dicotyledons
SUB CLASS	Gamopetalae
ORDER	Lamiales
FAMILY	Verbinaceae
GENUS	Phyla
SPECIES	P. nodiflora
BOTANICALNAME	<i>Phyla nodiflora</i>
ENGLISH NAME	Cape weed
PARTS USED	Whole plant
CHEMICAL CONSTITUENT	Tri terpenoid lippiacin, Benzafuranone, Rengyolone, halleridone, Neptin, hispidulin, Essential oil, Diflavone sulphides, Flavonoids, Sterols, Cardenolides, Glycosides lippiflorin A& B.
ACTION	Astringent, Anthelmintic and stomachic, Anti septic
SUVAI-THANMAI- PIRIVU	Thuvorppu – Veppam – Karppu
USES	Peptic Ulcers, Externally dandruff and wounds.

**THULASI****பொதுகுணம்**

“இருமலொடு நெஞ்சி விழுப்புச்சு வாசம்

கிருமி சலதோடம் கேவல் - மருமச்

சளிநுட்சை துலைவிடம் சன்னியிவை போக்கும்

தளிரார் கருந்துளசி தான்.”

**GENERAL PROPERTIES:**

KINGDOM	Plantae
DIVISION	Angiosperms
CLASS	Dicotyledons
SUB CLASS	Gamopetalae
ORDER	Lamiales
FAMILY	Lamiaceae
GENUS	Ocimum
SPECIES	O. species
BOTANICALNAME	<i>Ocimum sanctum</i> Linn.
ENGLISH NAME	Holy basil
PARTS USED	Whole plant
CHEMICAL CONSTITUENT	Oleanolic acid, Ursolic acid, Rosmarinic acid, Eugenol, carvacrol, linalool, beta Caryophyllene, $\beta$ elemence, germacrene D, Luteolin
ACTION	Expectorant, Anti septic, Anti bacterial, Anti stress
SUVAI-THANMAI- PIRIVU	Karppu – Veppam – Karppu
USES	Cough, Allergic bronchitis, Asthma and Eosinophilia.

## PARUTTI

### பொதுகுணம்

பருத்தியிலை மொக்கிரண்டைப் பாலிலரைத் துண்ண

வருத்துகின்ற மேகமெல்லாம் மாறும் - பருத்த

விரத்தபித்தத் தோடு விரணவீக் கம்போம்

அரத்தவிதழ் மாதே யறை.

### GENERAL PROPERTIES:

KINGDOM	Plantae
DIVISION	Angiosperms
CLASS	Eudicots
SUB CLASS	Rosids
ORDER	Malvales
FAMILY	Malvaceae
GENUS	Gossypium
SPECIES	G.herbaceum
BOTANICALNAME	Gossypium herbaceum.Linn
ENGLISH NAME	Indian cotton plant
PARTS USED	Leaf, flower, seed
CHEMICAL CONSTITUENT	Gossypol, glycosides, saponins, phenolic compounds
ACTION	Astringent, Tonic
SUVAI-THANMAI- PIRIVU	Thuvarpu, veppam, kaarpu
USES	Reduced Swelling, Inflammation, wounds



## VELLERUKAN

### பொதுகுணம்

வலியின் வலிகளுக்கு மாவாத சன்னி

எலியின் விடஞ்சுரங்க ளெல்லாம் - வலியற்றுக்

காலைத் தொழுதே கடற்சேரும் வெள்ளெருக்கம்

பாலைத் தொடுவார்க்குப் பார்.

### GENERAL PROPERTIES:

KINGDOM	Plantae
DIVISION	Angiosperms
CLASS	Eudicots
SUB CLASS	Asterids
ORDER	Gentianales
FAMILY	Apocynaceae
GENUS	Calotropis
SPECIES	C.procera
BOTANICALNAME	Calotropis procera
ENGLISH NAME	Mudar, Gignatic swallow wort
PARTS USED	Leaf, flower
CHEMICAL CONSTITUENT	Flavonoids, cardenolides, saponins
ACTION	Analgeic, tonic, antipyretic
SUVAI-THANMAI- PIRIVU	Kaippu, mathuram, veppam, kaarpu
USES	Reduced swelling, pain, inflammation

## UTTAMANI

### பொதுகுணம்

“உத்தா மணியிலையால் உள்வயிற்றுக் குன்மமொடு

குத்தாம் வலியுங் குளிரும்போம் - பற்றி

இசிக்கும் வலியிரைப்பும் எத்தடிப்பும் ஏகும்

பசிக்குமதி மாந்தமும்போம் பார்.”

### GENERAL PROPERTIES:

KINGDOM	Plantae
DIVISION	Angiosperms
CLASS	Monocotyledons
SUB CLASS	Gamopetalae
ORDER	Gentianales
FAMILY	Apocynaceae
SUB FAMILY	Asclepiadiaceae
GENUS	Pergularia
SPECIES	P. daemia
BOTANICALNAME	<i>Pergularia daemia</i> (Forssk) Chiov.
ENGLISH NAME	Hariknot plant.
PARTS USED	Root and Latex
CHEMICAL CONSTITUENT	Lupenol acetate, $\alpha$ - amyrin, $\beta$ - sitosterol, Uzarigenin, Triterpenes, saponins, cardenilides and alkaloids.
ACTION	Anti-inflammatory, Anti pyritic, Anthelmintic
SUVAI-THANMAI- PIRIVU	Kaippu – Veppam – Karppu
USES	Asthma, diarrhoea, intermittent fever in malaria.

### 3.4 EXTERNAL MEDICINE - KURUNTHOTTI THAILAM

#### INGREDIENTS:

1. Kurunthottiverpattai (Sidarhombifolia)
2. Chukku(Zingiberofficinalae)
3. Milagu(Piper nigrum )
4. YElam (Elattariacardamomum)

#### 1. KURUNTHOTTI VERPATTAI

Botanical name: Sidarhombifolia

English name: Yellow sticky mallon

Family name: Malvaceae

Part used: Root

Suvai: Thuvarpu

Thanmai: Thatpam

Pirivu: Inipu

#### பொதுகுணம்:

இருபலை மக்கா வேளை யிசைந்தகக் கதனிற் பாதி  
யொருபடி தண்ணீ ரெட்டி லொன்றெனக் காய்ச்சிக் கொள்ளப்  
.பெருகிய கிராணி வாயு பெலத்திடுங் குன்ம ரோகம்  
பொருவது தேசம் விட்டுப் போவது திண்ணந் தானே.

#### ACTIONS:

Tonic

#### CHEMICAL CONTITUENTS:

Phenolic compounds, Glycosil flavonoids

#### PHARMACOLOGICAL ACTIVITIES:

Anti – arthritic activity

## REFERENCE:

Revista brasileira de farmacognosia, july- august 2015, vol.25,  
doi:10.10.16/j.bjp.2015.02.002

## 2. CHUKKU

Botanical name	:	Zingiber officinale, Rosc.
English name	:	Dried ginger
Family name	:	Zingiberaceae
Part used	:	Rhizome
Suvai	:	Kaarpu
Thanmai	:	Veppam
Pirivu	:	Kaarpu

பொதுகுணம்:

தூலைமந்தம் நெஞ்செரிப்பு தோடமேப் பம்மழலை

மூலம் இரைப்பிருமல் முக்குநீர்-வாலகப

தோடமதி சாரந் தொடர்வாத குன்மநீர்த்

தோடம்ஆ மம்போக்குஞ் சுக்கு

## ACTIONS:

Stimulant, Stomachic, Carminative

## CHEMICAL CONSTITUENTS:

Paradols, Gingerdiacetates, Gingerdiones, Gingerglycolipids A,B  
and C, Sesquiterpenes

## PHARMACOLOGICAL ACTIVITIES:

Bronchodilator, Anti- inflammatory, Antioxidant, Analgesic

## REFERENCE:

International journal of pharma and bio science, A.K.Ghosh, volume 2, issue 1, Mar 2011, ISSN 0975-6299.

## 3. ELAM:

Botanical name	:	Electaria cardamomum
English name	:	Cardamom seeds
Family name	:	Zingiberaceae
Part used	:	Seeds
Suvai	:	Kaarpu
Thanmai	:	Veppam
Pirivu	:	Kaarpu

## பொதுகுணம்:

தொண்டை வாய்கவுள் தாலுகு தங்களில்

பண்டை வெக்கை விதாகநோய் காசமும்

அண்டை யீளைவன் பித்தம் இவைக்கெல்லாம்

ஆல மாங்கமழ் ஏல மருந்தே

## ACTIONS:

Stimulant, Stomachic

## CHEMICAL CONTITUENTS:

Alpha- pinen, Sabinene, Myrecene, Limonene, Cineole, Cymene, Methyl heptenone

## PHARMACOLOGICAL ACTIVITIES:

Anti – asthmatic, Bronchodilator, Antimicrobial, Antiseptic

## REFERENCE:

A journal of Bangladesh pharmacological society 2011; 6 ; 34-37.

## 4. MILAGU

Botanical name	:	Piper nigrum.Linn
English name	:	Black pepper
Family name	:	Piperaceae
Part used	:	Seed
Suvai	:	Kaippu, Kaarpu
Thanmai	:	Veppam
Pirivu	:	Kaarpu

## பொதுகுணம்:

கோணுகின்ற பக்கவலி குய்யவுரோ கம்வாத

சோணிதங்க முத்திற்குள் தோன்றுநோய் - காணரிய

காதுநோய் மாதர்குன்மங் காமாலை மந்தமென்றீர்

எதுநோய் காயிருக்கில் ஈங்கு.

## ACTIONS:

Antivatha, Antiperiodic, Resolvent

## CHEMICAL CONTITUENTS:

Sabinene, Pinene, Phellandrene, Linalool, Limonene, Piperene

## PHARMACOLOGICAL ACTIVITIES:

Anti – inflammatory, Analgesic, Antimicrobial

## REFERENCE:

Asian pacific journal of tropical medicine, volume 7, September 2014

### 5. NALLAYENNAI (Gingelly oil)

#### பொதுகுணம்

“புத்திநயனக்குளிர்ச்சி பூரிப்பு மெய்ப்புளகஞ்

சத்துவங் கந்தி தனியிளமை - மெத்தவுண்டாங்

கண்ணோய் செவிநோய் கபாலவழல் காசநோய்

புண்ணோய்போ மெண்ணெய்யாற் போற்று.”

#### GENERAL PROPERTIES:

KINGDOM	Plantae
DIVISION	Angiosperms
CLASS	Dicotyledons
SUB CLASS	Gamopetalae
ORDER	Personales
FAMILY	Meliaceae
GENUS	Sesamum
SPECIES	S. indicum
BOTANICALNAME	<i>Sesamum indicum</i>
ENGLISH NAME	Sesame plant
PARTS USED	Oil
CHEMICAL CONSTITUENT	Pedalein, vitamin E, fatty acids, alkaloids
ACTION	Anti-stress
SUVAI-THANMAI-PIRIVU	Enippu– Thatpam – Enippu
USES	Oil used for cooling effect, External application for Wounds and scabies.

**DRUG REVIEW OF SIDDHA ASPECT- INTERNAL**

**INTERNAL MEDICINE: PANCHAPAANA CHENDHURAM**

**INGREDIENTS - GROUP I DRUGS**



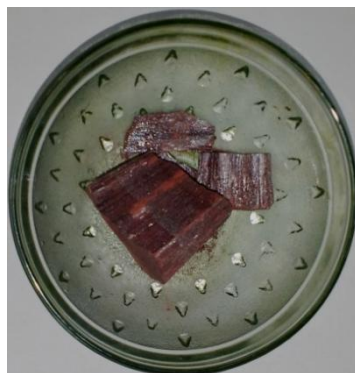
**RASAM**



**GANDHAGAM**



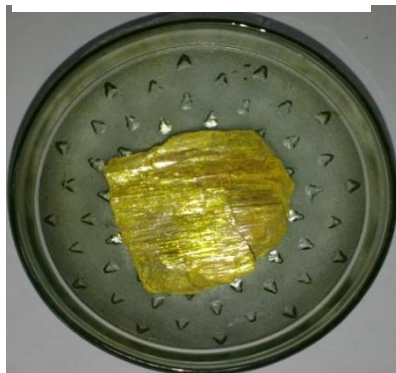
**THALAGAM**



**LINGAM**



**KAANTHAM**



**THALAGAM**



**MANOSILAI**



## GROUP II DRUGS



*Phyla nodiflora*



*Piper betel*



*Ocimum sanctum*



*Pergularia daemia*



*Acalypha indica*



*Gossypium hirsutum*



*Calotropis procera*

### 3.5 VARMAM REVIEW

#### VARMAKALAI:

The systematic study of varmam energy in the application of martial arts and therapeutic usage is called as Varmakalai or Varmam art. They dwell in very little places where this art is being taught as Guru-disciple tradition. Many families still have this secretive art as their assets.

#### HISTORY OF VARMAKALAI:

It is believed that Lord shiva taught the art of Varmam to his son Murugan. The lineage extends to Siddha Agathiar , Nanthidevar and their disciples <sup>90, 92</sup>. Varmam art has been sustained and nourished for centuries by the tradition of aasan (the master) and disciple. The master would take up the responsibilities of passing his own verified, experimental and textual knowledge to his trusted student who would continue the same process down the line. This art survived and strengthened its roots through this process for centuries and still exists even today on the same principle.

ஆதியில் வர்மம் வந்த அடிவரலாறு தன்னை  
வாதியாம் வர்மகாவியம் சொல்ல செகமுகன் காப்புதானே<sup>91</sup>  
நெஞ்சடை அரனார்பெற்ற செல்வனாங் குழந்தைவேலன்  
நெஞ்சினில் மகிழ்ச்சிக்கொண்டு நினைவுடனகத் தீவருக்கு  
மிஞ்சவே உபதேசித்த வெற்றியாத வர்மம்<sup>90</sup>

#### VARMAM:

Varmam is the subtle energy that functions inside the body. It is the manifestation of the five elements (IymBootham), vital airs (Vayu-10), Naadis, Vaasi, Kundalini<sup>96</sup>. This is revealed in the following verse of VagadaNithanam<sup>93</sup> and Varmasaranool<sup>94</sup> as

காணுகின்ற கேசாதி பாதமெங்கும்  
கதிந்தோடும் வாசிநிலை வர்மம்<sup>93</sup>  
உடலுயிர் நாடிதனில் ஊன்றிடும் வாசியதாம்  
ஊனுடல் மருவியே ஊடாடும் நிலை வர்மம்<sup>94</sup>

உயிருக்குள் உயிராய் எங்கும்  
தானாக நின்ற தற்பரன்  
பரமான அசைவதற்குள் ஊடாடி  
மருவினதோர் வர்மம்<sup>95</sup>

### **VARMA POINTS:**

The places where the Varmam energy resides and activates both body and life-energy are Varmam points. These points are located in the nerves, naadi, muscle and bones. They are the sites of bio-energy which aid physiological functions of the body.

It is also said that Varmam points are the places where the vital energy Vaasi strikes<sup>96</sup>. The following lines express this as

வாசி தட்டும் தலமெல்லாம் வர்மதலம்  
வாசி மறைக்க மயங்கிடும் காயம்<sup>96</sup>

உடலுயிர் பரவுஞ் சக்தி  
ஊர்ந்தேலு மிடங்கள் வர்மம்<sup>97</sup>

செப்புறு தசைகளென்பு சிறுபெரு நரம்புசந்து  
தப்புறு நாடியாலும் தங்குமிடம் வர்மமாகும்<sup>98</sup>

### **SYNONYMS OF VARMA:**

The Varmam energy is denoted by the names like Vaasi, Puravi, Kattru, Uyir, Maigai, Pranan, Kalai, Swasam, Saram, Yogam, Param, Sivam. This is expressed in “VaagadaNithanam<sup>93a</sup>,” as

வர்மமென்றும் வாசியென்றும் புரவியென்றும்  
காற்றென்று முயிரெண்டும் மாய்கை யென்றும்  
பிராணென்றும் கலையென்றும் சுவாசமென்றும்  
சரமென்றும் யோகமென்றும் பரமென்றும்  
சிவமென்று மிவையெல்லாஞ் சொல்ல லாகும்<sup>93a</sup>

சரமென்றும் உயிரென்றும் வாயு வென்றும்  
சர்வாத்மா பசித்ததொரு கலைய தென்றும்  
புரவியென்றும் காலமென்றும் பிராண னென்றும்  
பிரகாச மானகாற்று சீவ னென்றும்  
பரமென்றும் சுவாசமென்றும் மூச்சென்றும்

பரசிவமாக் கிராணகெந்த மாவி யென்றும்  
பிரசித்த சைவமென்றும் வர்ம மென்றும்  
பிசுகாத வருபியென்றும் சரத்தின் பேரே <sup>97a</sup>.

## TYPES OF VARMAM:

Varmam points are the places which activate, regulate, supplies energy and functions according to the body needs. The Varmam text “Varma Vilvisai”<sup>98</sup> enumerates 8000 Varmam points and Kumbamuni narambarai<sup>99</sup> describes 251 points. Most of the Varmam texts enlist 108 Varmam points of which 12 are paduvarmams and 96 are thoduvarmams. Other types of Varmam mentioned in the texts are vathavarmam (64), pithavarmam(26), silaethumavarmam(6) <sup>40b</sup>.

ஆச்சென்றால் காலில் மூவைந்தாச்சே அப்படிகையில் ஈரேழுமாச்சு  
மெச்சென்று உந்திக்குக் கீழ்மேவிய ஒன்பதுவுமாச்சு  
நேச்சொன்றால் உந்திக்கும் மேல் நேர் மூன்று ஆறேழாச்சு  
மிச்சமென்றால் கண்டத்திற்கும் மேல் அய்யஞ்சு அதுவுபாரே <sup>100</sup>

ஆகுமே தொடுகருவி தொண்ணூற்றாறும்  
தொகுப்பான தொடுவர்மம் ஆகும்பாரு  
வேகமாய் படுவர்மம் பன்னிரண்டில்  
வேந்தனே நின்றகருவி அறிய சொல்லு  
ஏகமாய் பன்னிரண்டு கருவி எங்கே  
என்னப்பா இல்லாவிட்டால் நூற்றெட்டேது  
ஊகமாம் நூற்றெட்டு வர்மம் ஆனால்  
உத்தமனே பன்னிரண்டும் அறிந்தோன் ஆசான் <sup>40 a</sup>.

வர்மமென்ற வாத வற்மம் எட்டெட்டாகும்  
வகையான பித்தவற்மம் இருபத்து ஆறாம்  
தர்மமென்ற சிலேர்பன வர்மம் ஆறதாகும்  
தயவான படுவர்மம் பன்னிரண்டாம்  
கர்மமென்ற இவைகூட்டி தொகையைப் பாரு  
கருவான தொகைசரியாய் நூற்றெட்டாச்சு  
சர்மமென்ற இவைதானே சப்த தாது  
சடமான தேகம் எழுவகையில் மூணுபங்கே <sup>40b</sup>

Paduvarmamams are the varmam points which are directly connected to brain energy and serve as major energy storage points <sup>6</sup>. According to “Pingalanigandu<sup>101</sup>”, the word ‘padu’ means brain. Thoduvarmamams are the varmam points which are connected to paduvarmamams. The word ‘thodu’ refers to touch. It means through the act of touch, one varmam point is connected to another varmam point. Such a way, eight thoduvarmamams are connected to one paduvarmamami.e  $8 \times 12 = 96$  Thoduvarmam. They serve as minor energy storage points.

### **LOCATIONS OF VARMAM POINTS:**

Varmam Points in the body can be determined by

- a) Anatomical location
- b) Proportional Measurement
- c) Graphical measuring method
- d) Locating by reference to adjacent Varmam points
- e) Location by Classification
- f) Finger breadth Measurement Method
- g) Thread - Measurement Method<sup>112</sup>

The total number of Varmam points which accounts to 108 comprises two terminologies Varmam and Kaalam. The word Varmam refers to static energy and the term Kaalam refers to kinetic energy<sup>6a, 102</sup>.

### **VARMAM STIMULATION FOR SAGANA VATHAM:**

#### **SARA MUDICHU VARMAM:**

முடிச்சியப்பா கழுத்தடியில் புசம் நேராக  
முன்னொளியாம் சரமுடிச்சி ஒன்று<sup>40</sup>

“இருப்பென்னும் கழுத்தினோடு தோள்  
புஜம் சேரும்ஸ்தானம்  
விருப்பென்னும் தண்டெலும்பில்  
வலுக்கட்டும் நிலையம் இங்காகும்  
உறுப்பெறும் தலைகழுத்து வலுகட்டும்  
தன்மைஇங்கேயாம்<sup>6c</sup>”

It is located at the back in the cervical prominence, at the C7- T1 junction.

### KAKKATTAI KAALAM:

“வழுவிலா தோளில் இரண்டங்குலம் மகுவ  
வன்மையுள்ள காக்கட்டைக் காலம்<sup>114</sup>”

“பாரடா தோளில் இருவிரல்தான் நீங்கி  
பரவு காக்கட்டை காலமாகும்<sup>121</sup>”

“சுழியாடி வர்மத்தின் பக்கமாக  
சுட்டமிறை நடுவு காக்கட்டைக்காலம்<sup>117</sup>”

“வாறான தோள் ரெண்டங் குலமே நீக்கி  
மருவுகின்ற தலமதிலே காக்கட்டைக் காலம்<sup>118</sup>”

‘It is located in the supraclavicular fossa.

‘பாரிதுவே காக்கட்டைக் காலமதாய்ப் புஜப்பொய்கையில்  
புஜகழுத்தின் வில்லாகவும் விசையாகவும் சார்ந்திருப்பதுவே<sup>6c</sup>”

“ஆகுமிந்த யுடலின்கீழ் முண்டத்திற்கு பலமதாய்  
வாகுபெரும் மேலுறுப்பிற்கும் இவ்விதமாக நாளமதுயிருப்பதாய்வீர்  
அசைத்தலுடன் திருப்புதல்தான் வேகமாய் தலைமைதரும்  
நாளத்தின் வலுவாய்கட்டு இவ்விடத்தில் யிருப்பதுணர் வன்மையாமே<sup>6c</sup>”

The above verse from varmasootcham explains the physiological functions of kakkataikalam. It reveals that kakattaikalam supplies energy and acts as an anchorage to the whole body below the neck and it helps in the movement of neck .

“காக்கட்டை காலத்தின் செய்கை கேளு  
மின்னியே யிருபக்க கலைகள் தன்னை  
வெட்டியே யிருவிரலால் பிடித்து தூக்கே  
உன்னியே நாடியின் யிருபக்கம் சுற்றி  
நெட்டியே அசைத்துவிடு நிமிசத்தில்தான்<sup>105 c</sup>”

“விரலூன்றி வைத்துக் கொண்டு  
தலையை யிருபக்க அசைக்க சொல்லு  
சுத்தினதான் தலைமேல்கீழ் அசைக்க சொல்லு  
அண்ணாரும் போலப்ப சுழியில் ஊன்றே<sup>105</sup>”

The above lines from varmakaandam describes the technique of stimulation of kakkataikalam.

“வன்னமாம் தலை தின்னமாய் பெந்தமுற்ற  
சக்திநாளம் நிலையாகி யிருப்பதந்த தலபிதமாமே  
ஆகுமிந்த கைதளர்ந்து தரிப்பு மீறும்  
உயர்த்தி தாழ்த்தி வைத்துக்கொள்ள வொண்ணதாகும்<sup>6d</sup>”

Varmasootcham reveals the clinical symptoms of any energy loss to this varmam leads to weakness of the upperlimbs,radiculopathy with numbness and movement restriction

#### KAVULI KAALAM:

“தானிதே கையிடைலில் கவளி தன்னில்  
மானிதே பெருவிரலின் இடுக்கிலப்பா  
மகத்தான இடுக்கு வர்மமிதற்கு பேரு<sup>122</sup> ”

“கற்ப மென்ன கையிடையில் கவளிக் காலம்  
இப்படியே பெருவிரலிடையில் இருக்குவர்மம்<sup>124</sup>”

“பேர் பெரிய பெருவிரலுக்கிடையில்  
கையில் பெரிதான கவுளி<sup>123</sup>”

“சார்ந்திட்ட தலமிங்கே பின்தலை சுழியாடி  
கூர்ந்திட்ட நரம்புநாளம் கடந்துசெல்லும் தலமிது  
புஜகுண்டிற்கு பெலத்தைக் கொடுக்கும்<sup>6</sup> ”

It is located in the first web space between the thumb and index finger. It surpasses the blood vessels supplying posterior part of the head and suzhiyadi and it gives strength to the shoulder joint.

**VILANGU VARMAM:**

It is located below the center point of the cervical.



## 5. RESULTS AND OBSERVATIONS

### PANCHA PASHANA CHENDHURAM (ORGANOLEPTIC CHARACTERS):

S.NO	CHARACTERS	RESULTS
1.	Colour	Dark red
2.	Taste	Tasteless
3.	Odour	Odourless
4.	Appearance	Fine powder
5.	Solubility	Soluble in water and alcohol

### COLOUR OF THE INGREDIENTS BEFORE AND AFTER PURIFICATION:

S.NO	RAW DRUG	BEFORE PURIFICATION	AFTER PURIFICATION
1.	THALAGAM	Brick yellow	Yellow
2.	LINGAM	Shiny brick red	Brick red
3.	RASAM	Colourless, dust floats over it	Colourless
4.	GANTHAGAM	Dusty yellow	Pale yellow
5.	VELLAI PASANAM	Dirty white	White
6.	MANOSILAI	Brick orange	Orange
7.	KAANTHAM	Brownish black	Black

**TRADITIONAL WAY TO TETING A CHENDHURAM:**

S.NO	TESTS	INFERENCE
1.	Colour	Dark red
2.	Tasteless	+
3.	Odourless	+
4.	Finger furrow test	+
5.	Floating on water	+

**INFERENCE:**

Hence it proves the traditional way of testing the chendhuram.

## ACUTE ORAL TOXICITY STUDY OF PANCHA PASHANA CHENDHURAM

(OECD GUIDELINE – 423)

No of animals in each group: 3

**Table 2 (Observational study Results)**

No	Dose mg/kg	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1.	Control	+	-	-	+	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.	Pancha Pashana Chendhuram 2 mg/kg	+	+	+	+	-	+	+	+	+	+	+	+	+	-	+	-	+	+	+	-

1..Alertness 2. Aggressiveness 3. Pile erection 4. Grooming 5. Gripping 6. Touch  
Response 7. Decreased Motor Activity 8. Tremors 9. Convulsions 10. Muscle Spasm 11.  
Catatonia 12. Muscle relaxant 13. Hypnosis 14. Analgesia 15.Lacrimation 16.  
Exophthalmos 17. Diarrhea 18. Writhing  
19. Respiration 20. Mortality.

(+ Present, - Absent)

**Table 3( Body weight Observation)**

DOSE	DAYS		
	1	7	14
CONTROL	180.6±1.44	181.4 ± 4.32	183.2 ± 7.63
HIGH DOSE	190.5± 7.75	188.7 ± 1.67**	184.4 ± 2.67*
P value (p)*	S	S	NS

**Table 4 (Water intake (ml/day) of Wistar albino rats group exposed to Pancha Pashana Chendhuram**

DOSE	DAYS		
	1	6	14
CONTROL	48.5 ± 3.74	50.32±6.23	52.4±3.23
HIGH DOSE	40.4±2.53	36.2±1.61***	32.9±6.49***
P value (p)*		S	S

N.S- Not Significant, \*\*( $p > 0.01$ ), \*( $p > 0.05$ ), n = 10 values are mean ± S.D  
(One way ANOVA followed by Dunnett's test)

**Table 5: Food intake (gm/day) of Wistar albino rats group exposed to Pancha Pashana Chendhuram**

DOSE	DAYS		
	1	7	14
CONTROL	42.16±7.26	43.6±4.12	48.6±3.46
High Dose	37.4±5.14	30.3±1.52***	28.2 ±4.24***

**Results:**

All data were summarized in tabular form, (Table-1-4) showing for each test group the number of animals used, the number of animals displaying signs of toxicity, the number of animals found dead during the test, description of toxic symptoms,, weight changes, food and water intake.

**REPEATED DOSE 28-DAY ORAL TOXICITY STUDY OF  
PANCHA PASHANA CHENDHURAM**

**RESULTS****Repeated Dose 28- day oral toxic study of Pancha Pashana Chendhuram**

**Table 6: Body weight of wistar albino rats group exposed to Pancha Pashana Chendhuram**

DOSE	DAYS				
	1	7	14	21	28
<b>CONTROL</b>	180.6±3.62	181.4 ± 4.14	183.7 ± 9.61	184.6 ± 3.03	185.7 ± 1.31
<b>LOW DOSE</b>	183.2 ± 1.14	182.7 ± 3.64	180.4± 1.51	180.1 ± 4.66	178.4± 3.76
<b>MID DOSE</b>	186.6± 1.64	184.3 ± 2.74	182.4 ± 8.32	181.1 ± 3.16	177.7 ± 3.82
<b>HIGH DOSE</b>	184.4± 6.74	182.6 ± 2.12	178.6 ± 2.36	177.2 ± 4.78	174.12± 2.39
<b>P value (p)*</b>	NS	NS	NS	NS	NS

NS- Not Significant, \*\*( $p > 0.01$ ),\*( $p > 0.05$ ), n = 10 values are mean ± S.D (One way ANOVA followed by Dunnett's test)

**Table 7: Water intake (ml/day) of Wistar albino rats group exposed to Pancha Pashana Chendhuram**

DOSE	DAYS				
	1	6	14	21	28
<b>CONTROL</b>	61.5 ± 8.95	61±6.23	58.5±6.23	59±8.196	61.5±3.96
<b>LOW DOSE</b>	54.5±3.12	53.4±4.12	54.7±3.24	54.2±1.28	55.9±4.23
<b>MID DOSE</b>	50.7±1.23	39.3±2.11	37.1±1.13	32.4±1.21	31.4±1.14
<b>HIGH DOSE</b>	30.1±1.12	20.2±2.23	20.4±1.23	21.2±2.33	18.4±1.25
<b>P value (p)*</b>	NS	NS	NS	NS	NS

N.S- Not Significant, \*\*( $p > 0.01$ ), \*( $p > 0.05$ ),  $n = 10$  values are mean  $\pm$  S.D (One way ANOVA followed by Dunnett's test)

**Table 8: Food intake (gm/day) of Wistar albino rats group exposed to Pancha Pashana Chendhuram**

DOSE	DAYS				
	2	7	23	22	28
<b>CONTROL</b>	37.12±5.37	38.5±3.22	39.5±3.37	38.5±3.37	37±3.12
<b>LOW DOSE</b>	39.7±2.98	37.3±2.32	34.1±7.28	33.4±2.92	32.6±1.62
<b>MID DOSE</b>	37.2±1.25	32.2±1.20	30.2±2.15	29.4±1.28	25.2±2.44
<b>HIGH DOSE</b>	30.2±1.24	26.2±1.24	23.6±2.66	22.2±1.20	20.1±3.12
<b>P value (p)*</b>	NS	NS	NS	NS	NS

N.S- Not Significant, \*\*( $p > 0.01$ ), \*( $p > 0.05$ ),  $n = 10$  values are mean  $\pm$  S.D (One way ANOVA followed by Dunnett's test)

**Table 9: Haematological parameters of Wistar albino rats group exposed to Pancha Pashana Chendhuram**

Category	Control	Low dose	Mid dose	High dose	P value (p)*
<b>Haemoglobin(g/dl)</b>	13.8±0.88	13.90±1.16	11.14±0.66	9.28±1.16	N.S
<b>Total WBC (×10<sup>3</sup> l)</b>	11.91±0.59	11.85±1.23	10.08±1.21	8.110±2.27	N.S
<b>Neutrophils(%)</b>	33.65±0.06	33.3±1.24	32.11±2.16	30.20±1.10	N.S
<b>lymphocyte (%)</b>	70.24±1.48	70.02±1.12	69.20±1.16	66.10±1.26	N.S
<b>Monocyte (%)</b>	0.86±0.07	0.85±0.19	0.72±0.13	0.71±0.60	N.S
<b>Eosinohil(%)</b>	0.54±0.09	0.54±0.12	0.62±0.16	0.72±0.04	N.S
<b>Platelets cells10<sup>3</sup>/μl</b>	687.17±8.76	678.71±9.16	623.18±2.20	627.16±3.74	N.S
<b>Total RBC 10<sup>6</sup>/μl</b>	7.99±0.12	7.79±1.57	7.62±0.19	7.05±0.12	N.S
<b>PCV%</b>	37.79±0.6	37.35±1.23	32.98±1.18	28.82±2.14	N.S
<b>MCHC g/dL</b>	33.6±2.23	33.29±1.19	30.18±1.12	34.03±1.14	N.S
<b>MCV fL(μm<sup>3</sup>)</b>	49.07±3.64	47.28±8.12	45.20±1.24	4.22±1.94	N.S

N.S- Not Significant, \*\*( $p > 0.01$ ), \*( $p > 0.05$ ), n = 10 values are mean ± S.D (One way ANOVA followed by Dunnett's test)

**Table 10: Biochemical Parameters of Wistar albino rats group exposed to Pancha Pashana Chendhuram**

BIOCHEMICAL PARAMETERS	CONTROL	LOW DOSE	MID DOSE	HIGH DOSE	P Value (p)*
GLUCOSE (R) (mg/dl)	74.45±13.4	78.16±1.24	92.26±1.22	110.12±9.60	N.S
T.CHOLOSTEROL(mg/dl)	115.26±1.83	118.45±1.13	132.42±1.78	156.22±1.93	N.S
TRIGLY(mg/dl)	46.35±1.48	48.22±1.28	49.58±1.80	59.66±1.13*	N.S
LDL	73.8±2.43	75.24±3.14	82.14±1.24	96.64±4.12	NS
VLDL	15.2±2.44	15.82±1.14	18.44±2.14	19.24±4.16	NS
HDL	26.66±6.88	26.16±1.24	24.68±2.16	20.78±1.12	NS
Albumin(g/dL)	3.3±0.17	3.23±0.22	2.48±2.02	3.14±3.16	NS

NS- Not Significant, \*\* (p > 0.01), \* (p >0.05), n = 10 values are mean ± S.D  
(One way ANOVA followed by Dunnett's test)

**Table 11: Renal function test of Wistar albino rats group exposed to Pancha Pashana Chendhuram**

PARAMETERS	CONTROL	LOW DOSE	MID DOSE	HIGH DOSE	P Value (p)*
UREA (mg/dl)	13.35±0.99	14.81±1.26	16.26±1.18	21.28±3.12	N.S
CREATININE(mg/dl)	0.58±0.08	0.48±0.06	0.72±0.14	0.74±0.12	N.S
BUN(mg/dL)	15.12±0.10	15.12±0.28	16.28±0.14	16.90±1.22	NS
URIC ACID(mg/dl)	5.37±0.35	5.11±0.43	6.72±2.15	7.28±0.14	N.S

NS- Not Significant, \*\* (p > 0.01), \* (p >0.05) , n = 10 values are mean ± S.D  
(One way ANOVA followed by Dunnett's test)



**Table 12: Liver Function Test of of Wistar albino rats group exposed to Pancha Pashana Chendhuram**

PARAMETERS	CONTROL	LOW DOSE	MID DOSE	HIGH DOSE	P Value (p)*
<b>T BILIRUBIN(mg/dl).</b>	0.50±0.07	0.58±0.16	0.62±0.18	0.72±0.15	N.S
<b>SGOT/AST(U/L)</b>	114.95±1.39	118.15±2.11	121.21±1.23	125.55±1.23	N.S
<b>SGPT/ALT(U/L)</b>	71.23±1.28	72.91±1.59	76.34±2.18	80.32±1.28	N.S
<b>ALP(U/L)</b>	146.25±8.77	144.2±6.27	149.16±4.17*	153.3±4.25*	N.S
<b>T.PROTEIN(g/dL)</b>	6.32±0.38	6.48±1.34	7.26±0.23	6.53±1.26	N.S

NS- Not Significant, \*\* (p > 0.01), \* (p >0.05), n = 10 values are mean ± S.D (One way ANOVA followed by Dunnett's test)

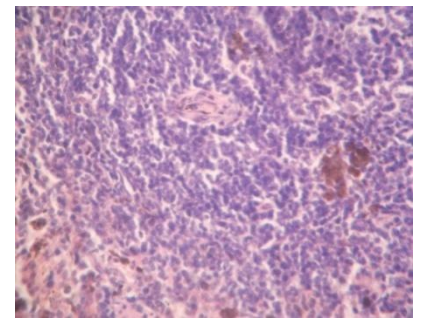
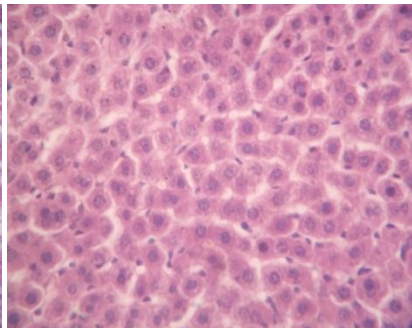
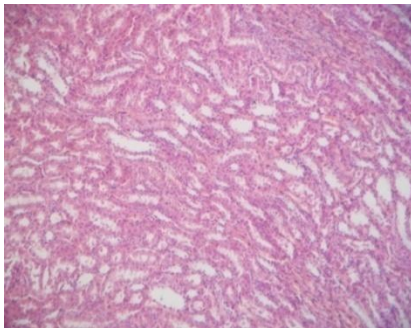
## HISTO PATHOLOGY

### CONTROL GROUP

Kidney

Liver

Spleen



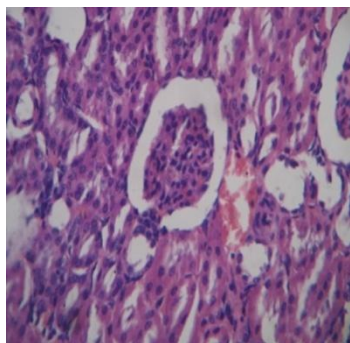
Brain

Heart

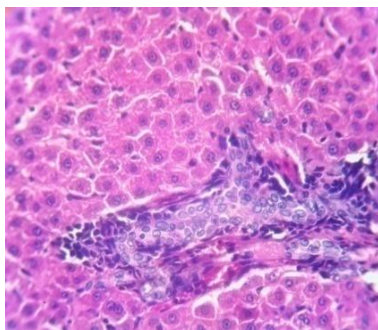
Lungs

### **TEST GROUP(HIGH DOSE)**

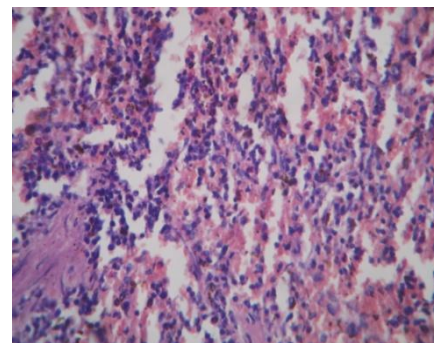
Kidney



Liver



Spleen



### **INFERENCE:**

The acute and repeated 28 days oral toxicity studies of PPC showed did not produced any toxicity signs in wistar albino rats. Daily administration of PPC at different doses 10 mg/kg, 20 mg/kg for 28 days were tolerated by the rats without any mortality and morbidity, indicates the drug tolerance. Hence the Herbo-mineral formulation PPC can considered as safe drug for prolonged duration use as revealed by toxicological studies.

## PHAMACOLOGICAL ACTIVITY

### ANTI-INFLAMMATORY STUDIES USING PANCHA PASHANA CHENDHURAM

Group	Dose	Initial paw volume	Change in paw edema mm at different time intervals				
			1 hr	2hr	3hr	4hr	5hr
I	Control	1.20 ± 0.14	1.20±0.14	1.20±0.14	1.20±0.14	1.20±.14	1.20±0.14
II	Carrageenan	1.21± 0.17	1.91 ± 0.21	2.27 ± 0.02	2.37 ± 0.14	2.48 ± 0.18	2.62 ± 0.17
III	Indomethacin	1.01± 0.06	2.10 ± 0.26	1.56 ± 0.15	1.47 ± 0.05	1.34 ± 0.18	1.25 ± 0.16
IV	Low dose	1.17 ± 0.13	1.39 ± 0.26	1.40 ± 0.07	1.32 ± 0.13	1.26 ± 0.12	1.22 ± 0.13
V	High dose	1.02 ± 0.20	1.60 ± 0.07	1.75 ± 0.25	1.52 ± 0.46	1.39 ± 0.28	1.27 ± 0.26

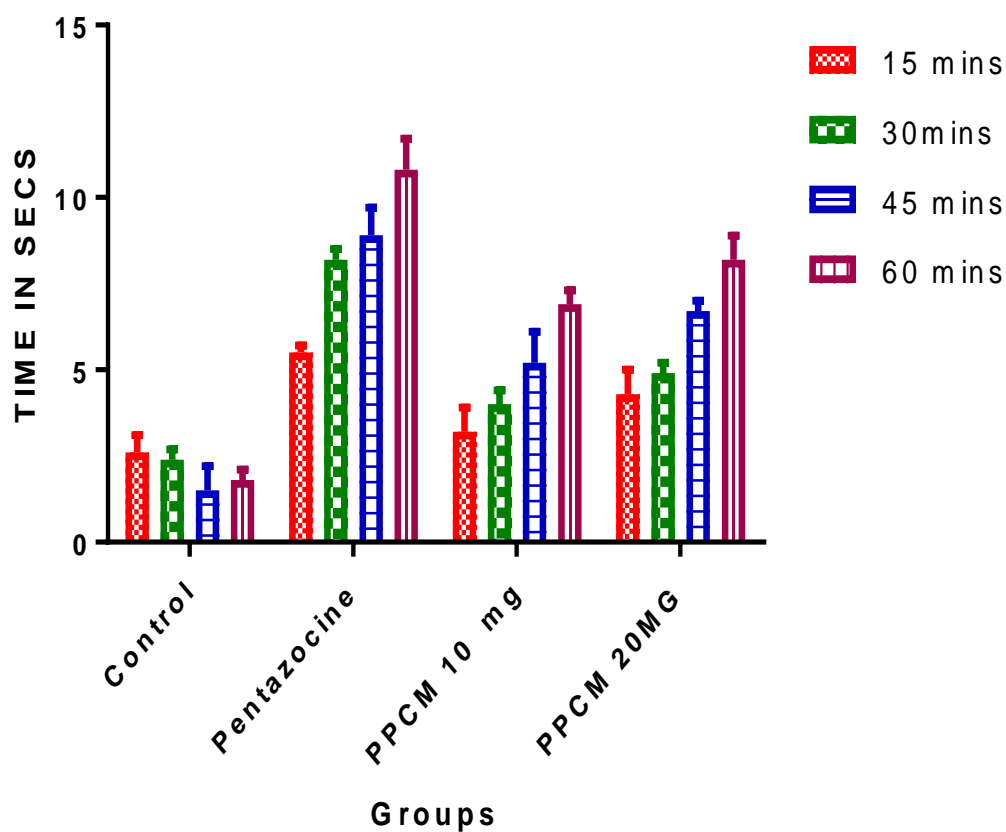
The paw volume up to the tribiotural articulation was measured at 0, 1, 2, 3, 4, 5 hrs

## ANALGESIC ACTIVITY:

### EDDY'S HOT PLATE METHOD IN RATS:

Groups	Dose Mg/kg	Reaction time			
		15 mins	30mins	45 mins	60 mins
Control	10	2.6±0.5	2.4±0.3	1.5±0.7	1.8±0.3
Pentazocine	30	5.5±0.2	8.2±0.3	8.9±0.8	10.8±0.9
Pancha Pashana Chendhuram (PPCM)	10	3.2±0.7	4.0±0.4	5.2±0.9	6.9±0.4
Pancha Pashana Chendhuram (PPCM)	20	4.3±0.7	4.9±0.3	6.7±0.3	8.2±0.7
N=6 ;Statistical analysis one way ANOVA followed by Dunnett t-test.					

## EFFECT OF PPCM IN EDDY'S HOT PLATE



### INFERENCE:

Pain is the predominant symptom in Cervical Spondylosis which can be subside by the trial drug due to the presence of Analgesic activity.

**RESULTS FOR HEAVY METAL ANALYSIS:**

S.NO	HEAVY METALS	RESULT	NORMAL LIMIT
1.	Mercury	Semi detectable (SD)	1PPM
2.	Arsenic	ND	3PPM
3.	Lead	ND	10PPM
4.	Cadmium	ND	0.3PPM
5.	Chromium	ND	1PPM

**INFERENCE:**

Mercury is found to be under the detection limit and arsenic, lead, cadmium and chromium are found to be not detected. Hence the drug PANCHHA PASHANA CHENDHURAM is proved to be safe for oral intake.

**RESULTS FOR PHYSICO – CHEMICAL ANALYSIS FOR “PANCHAPASHANA CHENDHURAM”:**

<b>S.NO</b>	<b>NAME OF THE EXPERIMENT</b>	<b>MEAN</b>
1.	Loss of drying (at 105 <sup>0</sup> C)	0%
2.	Total ash	88.64
3.	Water soluble ash	0%
4.	Acid insoluble ash	75.83
5.	P <sup>H</sup> value (10%)	4.52
6.	Particle size	Passes through 200 mesh

**INFERENCE:**

Total Ash value shows the drug is powdery. The soluble ash value show the drug is soluble in water completely and acid 75.83%. The P<sup>H</sup> value shows the drug is acidic 4.52. The drug is fully dried and particle passes through 200 mesh.

Results of the study were observed with respect to the following criteria

1. Age distribution
2. Gender distribution
3. Occupational distribution
4. Socio-economic status
5. Diet
6. Duration of illness
7. Paruvakalangal
8. Thinaigal
9. Kaalam (Season)
10. Distribution in Vali
11. Distribution in Azhal
12. Distribution in Iyyam
13. Envagai thervugal
14. Clinical features
15. Progress due to the treatment

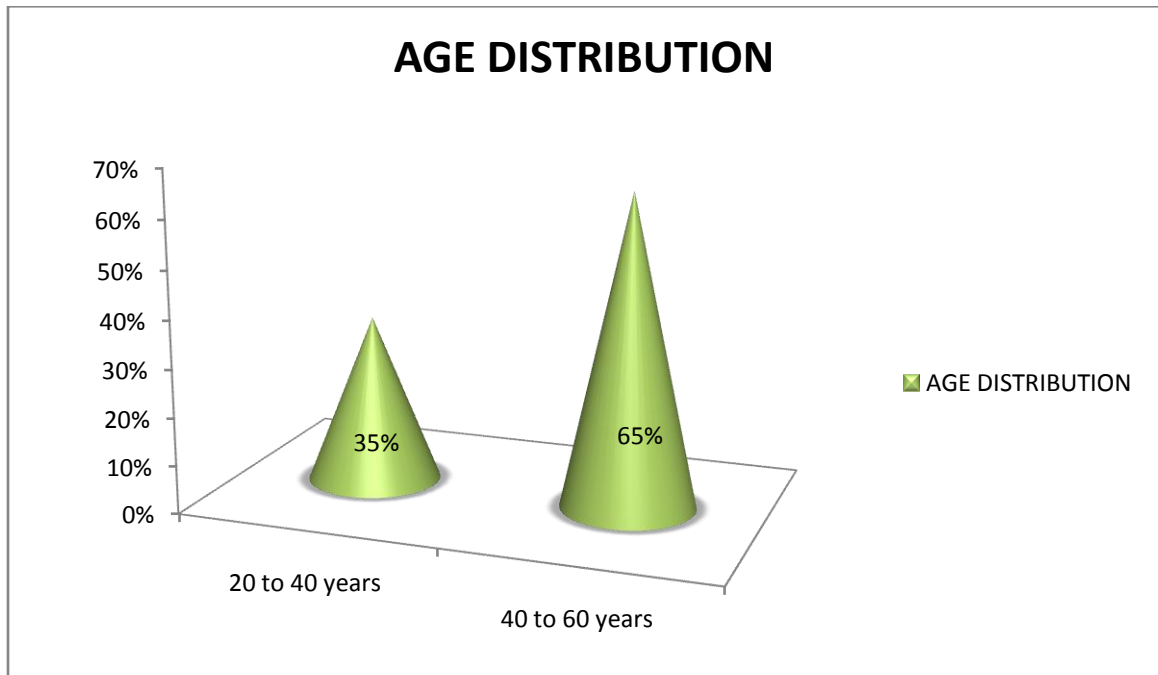
## **OBSERVATIONS:**

In the present clinical study, 60 patients of Saganavatham were treated in three groups completed the study plan. Following are the Demographical observations made in this clinical study.



## 1. AGE DISTRIBUTION :

S.NO	AGE IN YEARS	NO OF CASES (OUT OF 60)	PERCENTAGE
1	20 to 40	21	35%
2	40 to 60	39	65%

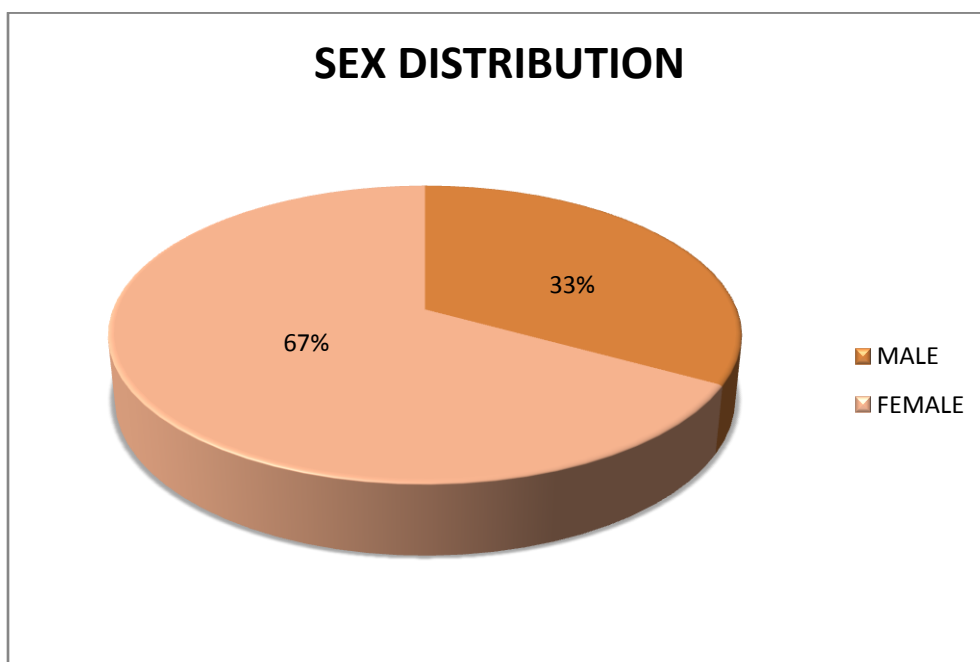


### INFERENCE:

Out of 60 patients subjected in the present study age wise distribution of the patients, in age groups 20-40 and 40-60 years of age were 35% and 65% respectively.

## 2. SEX DISTRIBUTION :

S.NO	SEX	NO. OF CASES (OUT OF 60)	PERCENTAGE
1	Male	20	33%
2	Female	40	67%

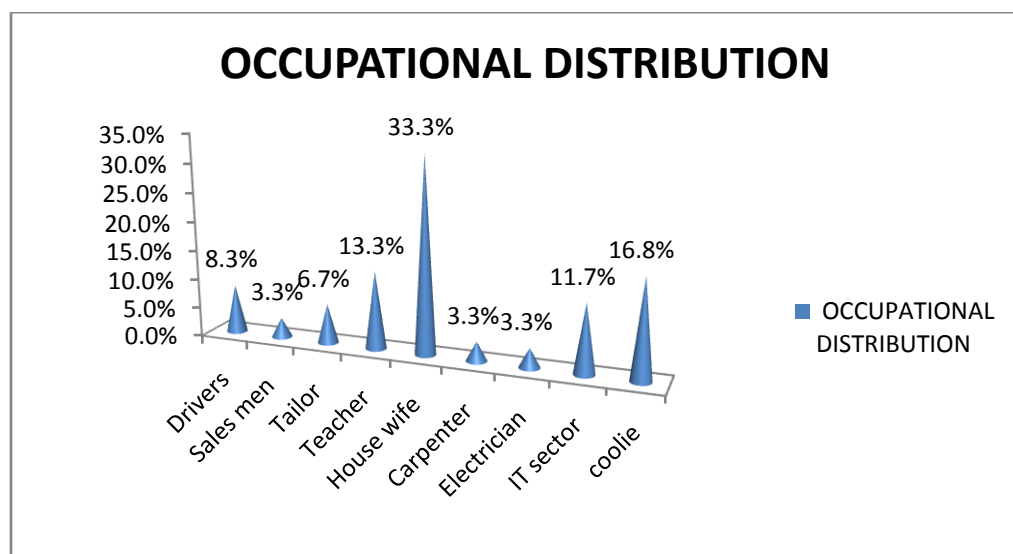


### INFERENCE:

Out of 60 patients subjected in the present study, male and female patients were 33% and 67% respectively.

### 3. OCCUPATIONAL DISTRIBUTION :

S.NO	OCCUPATION	NO.OF CASES (OUT OF 60)	PERCENTAGE
1	Coolie	10	16.8%
2	Drivers	5	8.3%
3	Sales men	2	3.3%
4	Tailor	4	6.7%
5	Teacher	8	13.3%
6	House wife	20	33.3%
7	Carpenter	2	3.3%
8	Electrician	2	3.3%
9	IT sector	7	11.7%

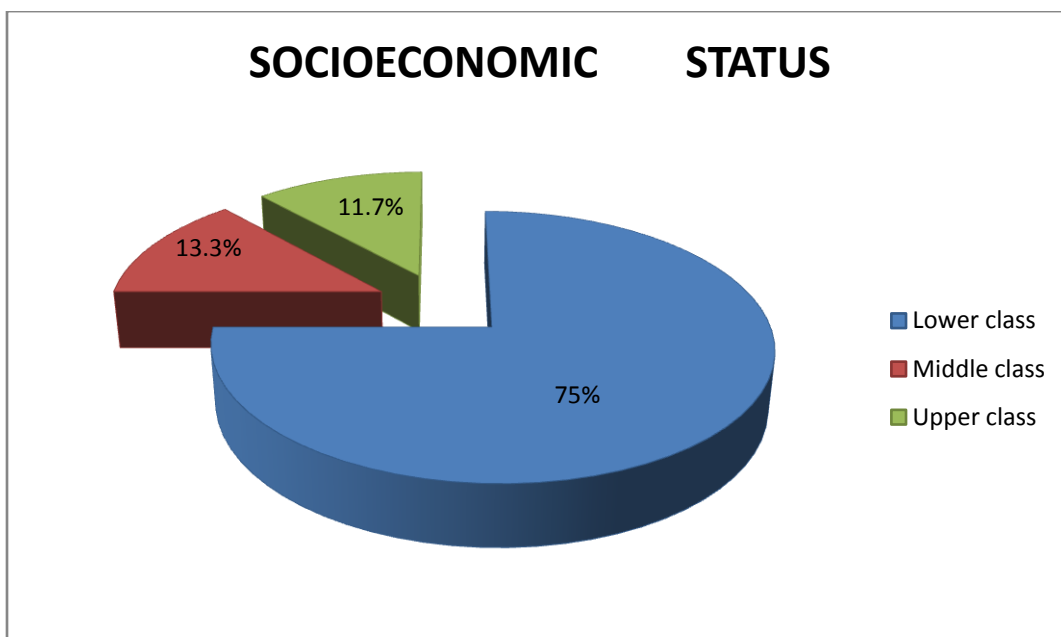


### INFERENCE:

Out of 60 patients subjected in the present study, Prevalence of the condition was highest in house wife (33.3%) followed by coolies (16.8%).The prevalence in other categories in the descending order was found to be drivers(8.3%), salesmen(3.3%),IT sector (11.7%), tailors(6.7%), carpenter(3.3%), teachers (13.3%) and electricians (3.3%).

#### 4. SOCIO-ECONOMIC STATUS :

S. NO	SOCIOECONOMIC STATUS	NO. OF CASES (OUT OF 60)	PERCENTAGE
1	Lower class	45	75%
2	Middle class	8	13.3%
3	Upper class	7	11.7%

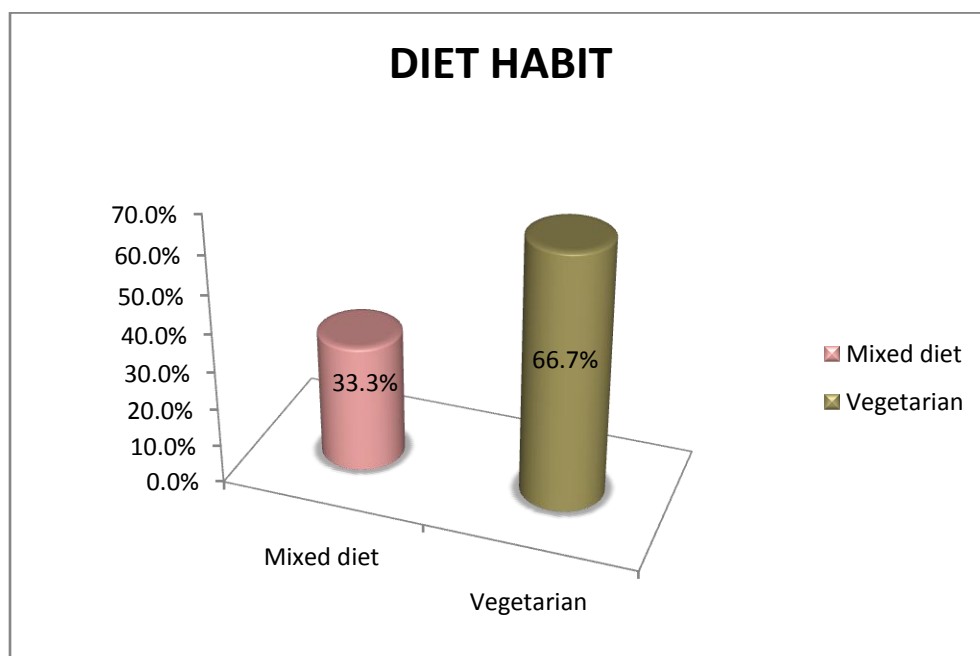


#### INFERENCE:

Out of 60 patients subjected in the present study, prevalence is higher among Lower class patients (75%) than middle class (13.3%) and upper class (11.7%) respectively.

## 5. DIET HABIT:

S. NO	DIET HABIT	NO.OF CASES (OUT OF 60)	PERCENTAGE
1	Mixed diet	20	33.3%
2	Vegetarian	40	66.7%

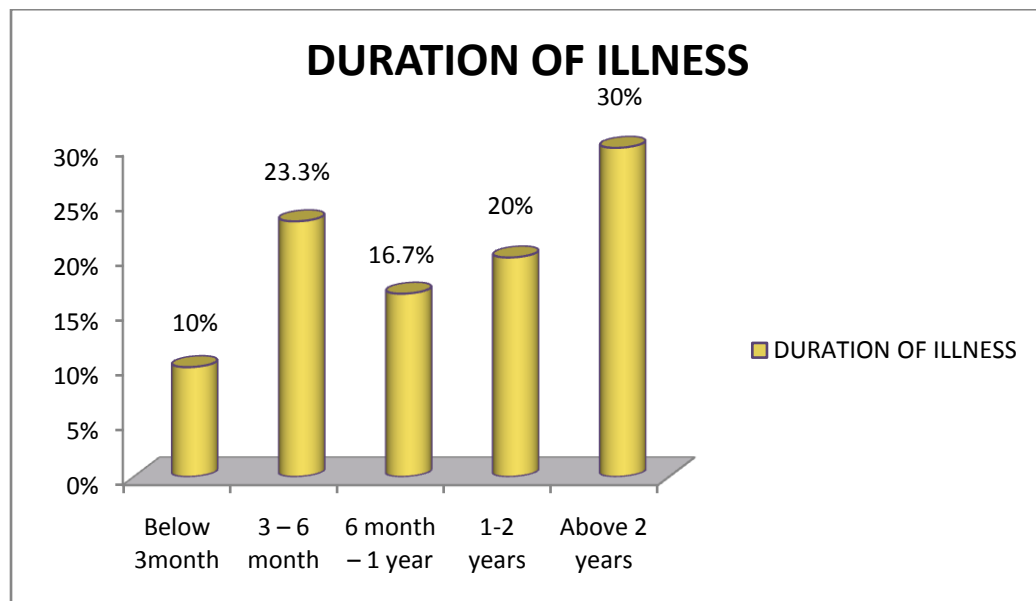


### INFERENCE:

Out of 60 patients subjected in the present study, mixed diet and vegetarian patients were 33.3% and 66.7%, respectively.

## 6. DURATION OF ILLNESS :

S.NO	DURATION OF ILLNESS	NO. OF CASES (OUT OF 60)	PERCENTAGE
1	Below 3month	6	10%
2	3 – 6 month	14	23.3%
3	6 month – 1 year	10	16.7%
4	1-2 years	12	20%
5	Above 2 years	18	30%

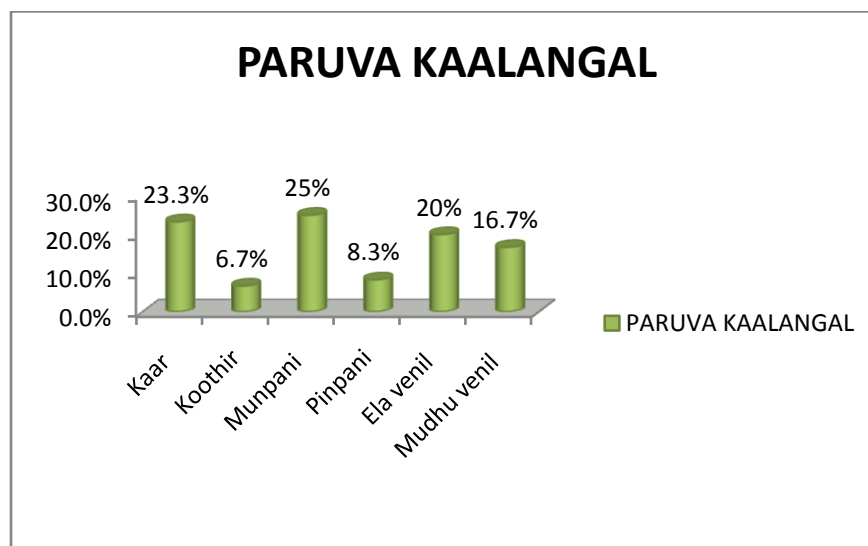


### INFERENCE:

Out of 60 patients subjected in the present study, 10% belonged to below 3 months of illness and other were 23.3% in 3 – 6 months, 16.7% in 6month – 1year, 20% in 1 – 2years, 30% of illness in above 2years.

## 7. PARUVAKALANGAL :

S.NO	PARUVA KAALANGAL	NO.OF CASES (OUT OF 60)	PERCENTAGE
1.	Kaar Kaalam (MidAug to Mid Oct)	14	23.3%
2.	Koothir Kaalam (Mid Oct to Mid Dec )	4	6.7%
3.	Munpani Kaalam (Mid Dec to Mid Feb)	15	25%
4.	Pinpani Kaalam (Mid Feb to Mid Apr)	5	8.3%
5.	Ela venil Kaalam (Mid Apr to Mid Jun)	12	20%
6.	Mudhu venil Kaalam (Mid Jun to Mid Aug)	10	16.7%

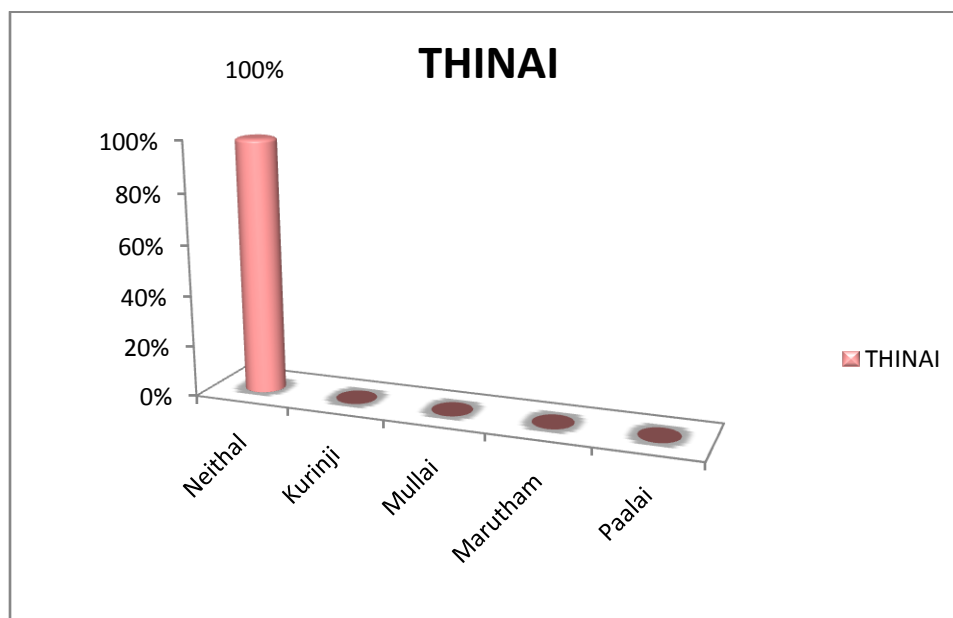


### INFERENCE:

The results indicated that incidence was highest in followed by munpani kaalam(25%), kaar kaalam (23.3%), Ela veni kaalam(20%), Mudhu veni kaalam (16.7%), Pinpani kaalam (8.3%) and koodhir kaalam(6.7%).

## 8. THINAIGAL :

S.NO	THINAI	NO.OF CASES (OUT OF 60)	PERCENTAGE
1.	Kurinji (Hill)	0	0
2.	Mullai (Forest)	0	0
3.	Marutham (Fertile)	0	0
4.	Neithal (Coastal)	60	100%
5.	Paalai (Desert)	0	0



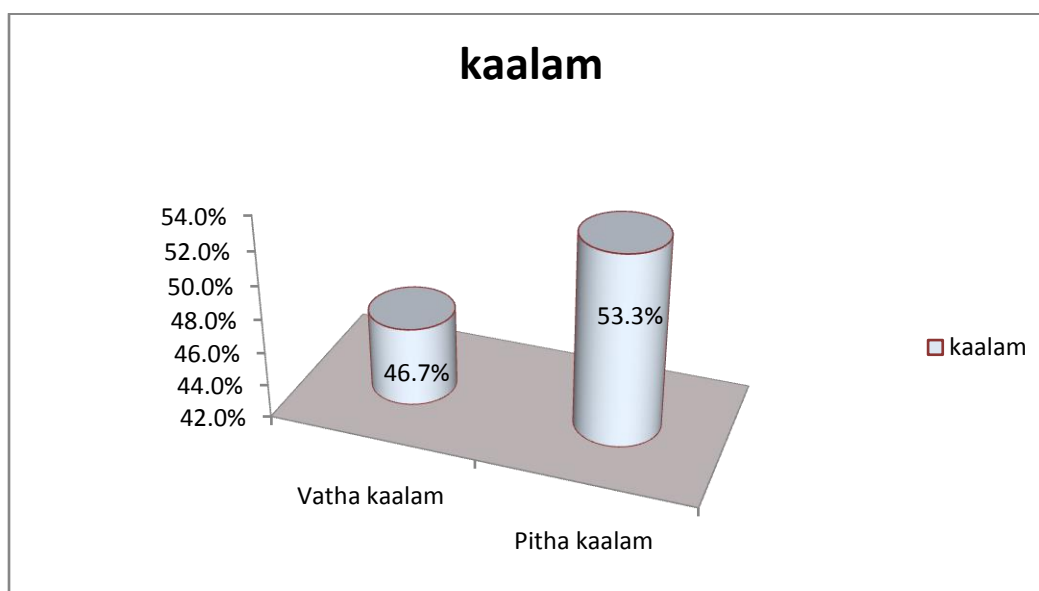
### INFERENCE:

The study was undertaken in Chennai, Tamil nadu only and hence all the patients were belonging to Neithal thinai.



## 9. KAALAM (SEASON) :

S NO	KAALAM	NO OF CASES (OUT OF 60)	PERCENTAGE
1	Vatha	28	46.7%
2	Pitha	32	53.3%
3	Silaethuma	0	0



### INFERENCE:

Vatham period is upto 33.33 years of age

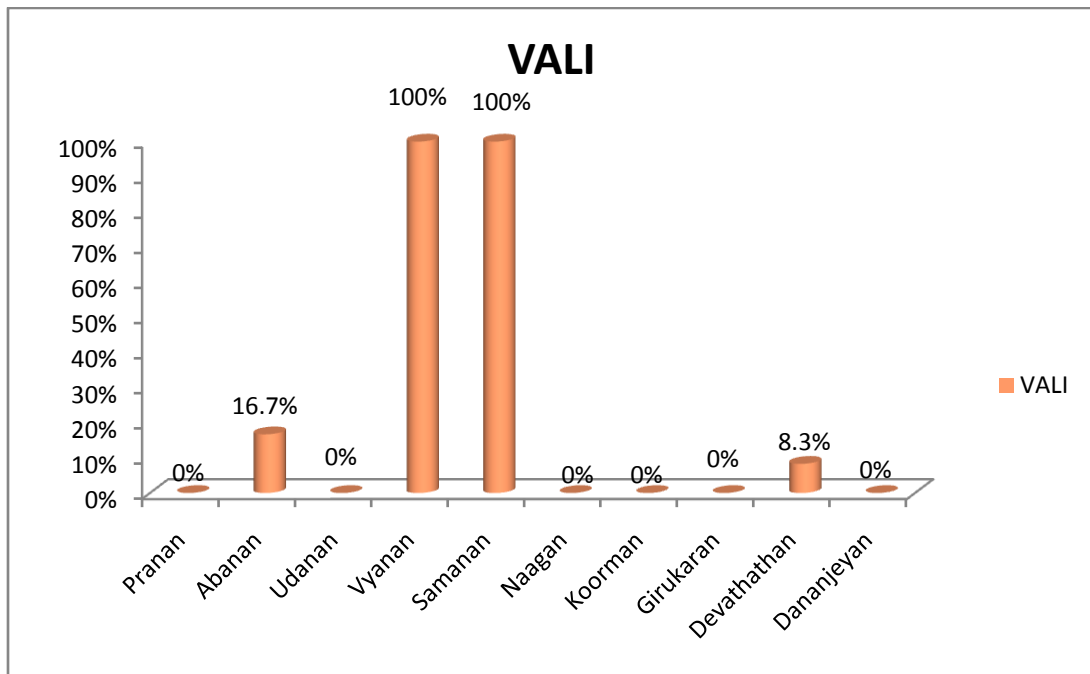
Pitha period is from 33.34 -66.67 years of age

Silaethuma period is from 66.68 – 100 years of age

The patients included in the study belonged only to vatha and pittha period of life. Incidence was more in Pittha period of life (53.3%) than in Vatha period of life (46.7%).

## 10. DISTRIBUTION IN VALI :

S.NO	VALI	NO.OF CASES (OUT OF 60)	PERCENTAGE
1	Pranan	0	0%
2	Abanan	10	16.7%
3	Udanan	0	0%
4	Viyanan	60	100%
5	Samanan	60	100%
6	Naagan	0	0%
7	Koorman	0	0%
8	Girukaran	0	0%
9	Devathathan	5	8.3%
10	Dananjeyan	0	0

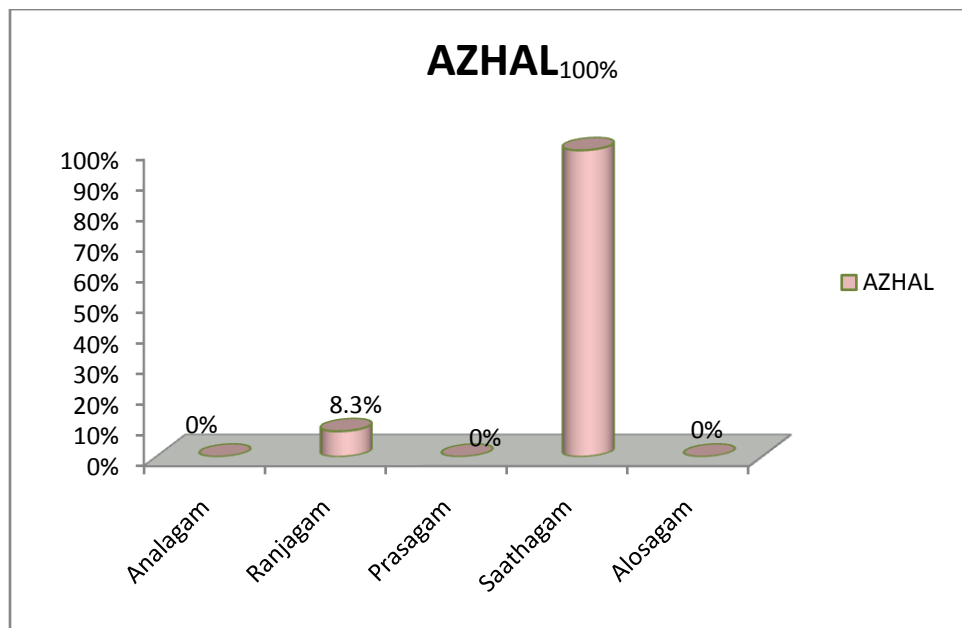


### INFERENCE:

During the activity of Viyanan, samanan, devathathan, and abanan the incidence percentage were 100%, 100%, 8.3% and 16.7% respectively.

## 11. DISTRIBUTION IN AZHAL :

S.NO	AZHAL	NO.OF CASES (OUT OF 60)	PERCENTAGE
1	Analagam	0	0%
2	Ranjagam	5	8.3%
3	Prasagam	0	0%
4	Saathagam	60	100%
5	Alosagam	0	0%

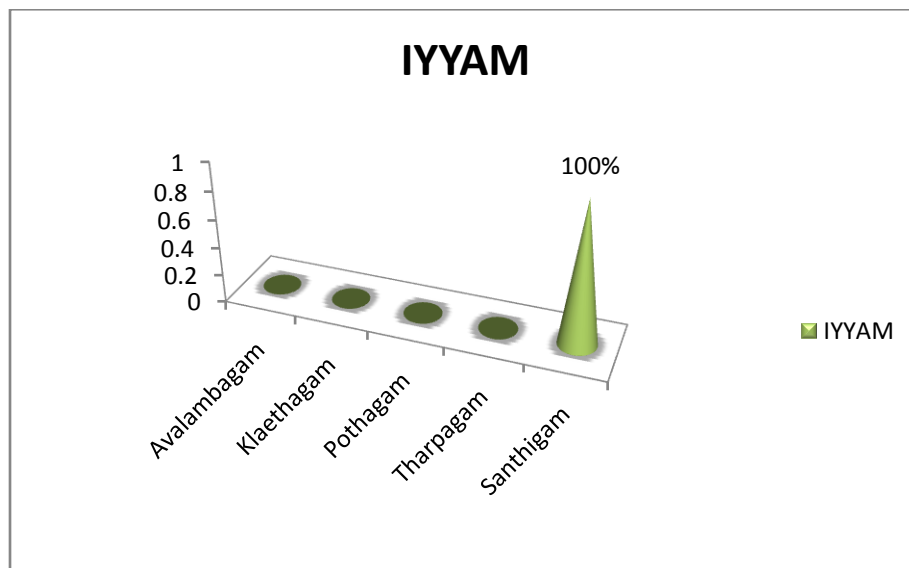


### INFERENCE:

During the activity of Saathagam, and ranjagam, the incidence percentage were 100% and 8.3% respectively.

## 12. DISTRIBUTION IN IYYAM :

S.NO	IYYAM	NO OF CASES (OUT OF 60)	PERCENTAGE
1	Avalambagam	0	0%
2	Klaethagam	0	0%
3	Pothagam	0	0%
4	Tharpagam	0	0%
5	Santhigam	60	100%

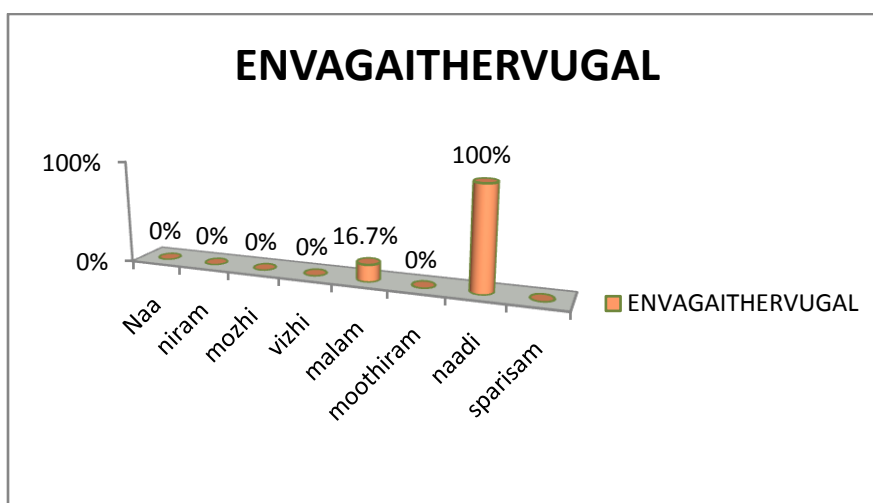


### INFERENCE:

During the activity of santhigam the incidence percentage were 100% respectively.

### 13. ENVAGAI THERVUGAL :

S.NO	ENVAGAI THERVUGAL	NO.OF CASES (OUT OF 60)	PERCENTAGE
1	Naa	0	0%
2	Niram	0	0%
3	Mozhi	0	0%
4	Vizhi	0	0%
5	Malam	10	16.7%
6	Moothiram	0	0%
7	Naadi	60	100%
8	Sparisam	0	0%

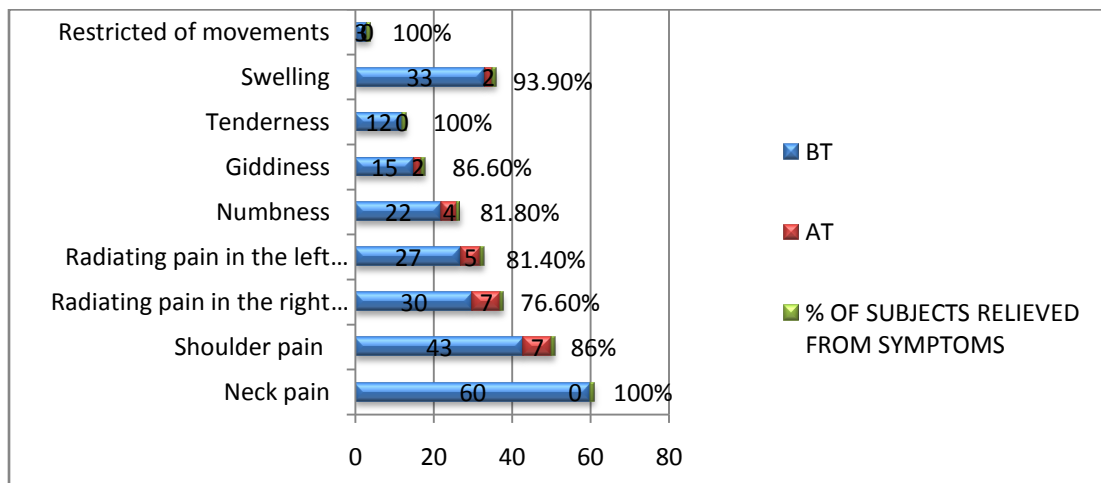


#### INFERENCE:

In Envagai thervu, Naadi was affected in 100% of patients and Malam was affected in 16.7% of patients.

## CLINICAL FEATURES CHART:

CLINICAL FEATURES	PATIENTS		
	BEFORE TREATMENT	AFTER TREATMENT	% OF SUBJECTS RELIEVED FROM SYMPTOMS
Neck pain	60	0	100%
Shoulder pain	43	7	86%
Radiating pain in the right upper limb	30	7	76.6%
Radiating pain in the left upper limb	27	5	81.4%
Numbness	22	4	81.8%
Giddiness	15	2	86.6%
Tenderness	12	0	100%
Swelling	33	2	93.9%
Restricted of movements	3	0	100%

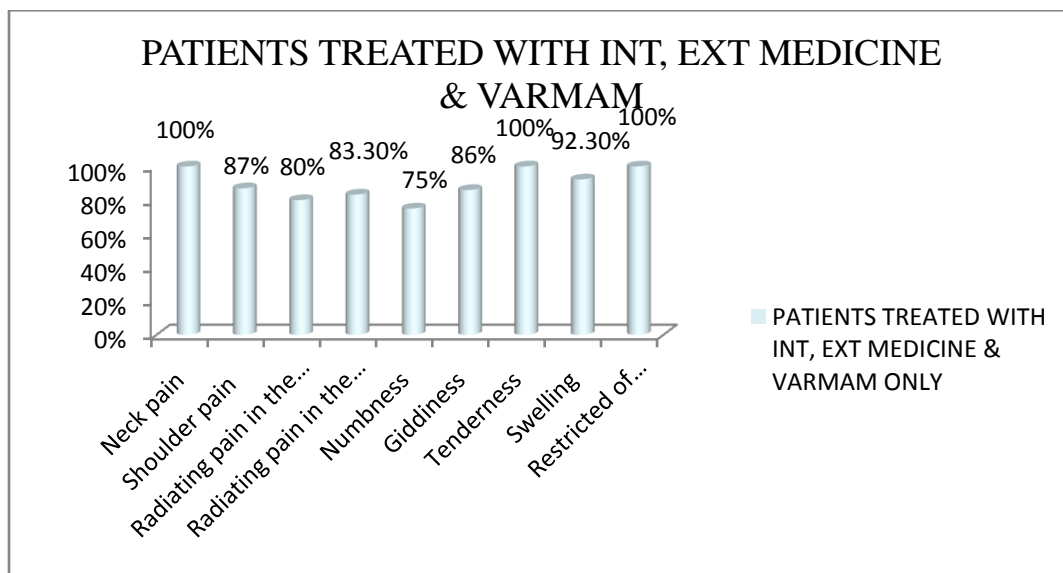


## INFERENCE:

Mostly 80% of the patients only have all the above said clinical features of the presenting illness.

## CLINICAL PROGRES CHART:

CLINICAL FEATURES	PATIENTS TREATED WITH INT, EXT MEDICINE & VARMAM ONLY		
	BEFORE TREATMENT	AFTER TREATMENT	% OF SUBJECTS RELIEVED FROM SYMPTOMS
Neck pain	20	0	100%
Shoulder pain	15	2	87%
Radiating pain in the right upper limb	10	2	80%
Radiating pain in the left upper limb	12	2	83.3%
Numbness	12	3	75%
Giddiness	7	1	86%
Tenderness	5	0	100%
Swelling	13	1	92.3%
Restricted of movements	1	0	100%



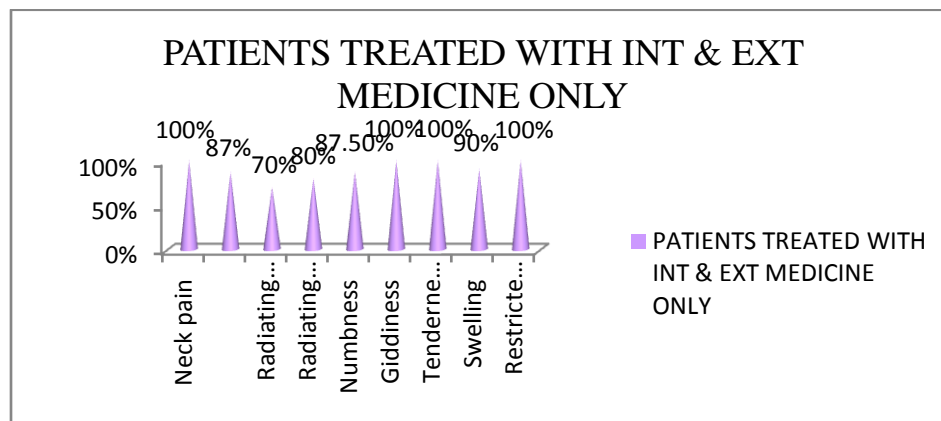
### INFERENCE:

Mostly 100% of the patient got relief from the neck pain, tenderness and restricted of movements. 87% Of the patients relieved from shoulder pain, 83.3% of them relieved

from radiation of pain in the left upper limb, 80% of them got relieved from radiating pain to the right side, 75% got relieved from numbness, 86% Of them got relieved from giddiness and 92.3% of them relieved from swelling when treated with providing internal medicine, External oil and varmam therapy.

### CLINICAL PROGRES CHART:

CLINICAL FEATURES	PATIENTS TREATED WITH INT & EXT MEDICINE ONLY		
	BEFORE TREATMENT	AFTER TREATMENT	% OF SUBJECTS RELIEVED FROM SYMPTOMS
Neck pain	20	0	100%
Shoulder pain	15	2	87%
Radiating pain in the right upper limb	10	3	70%
Radiating pain in the left upper limb	10	2	80%
Numbness	8	1	87.5%
Giddiness	5	0	100%
Tenderness	5	0	100%
Swelling	10	1	90%
Restricted of movements	1	0	100%



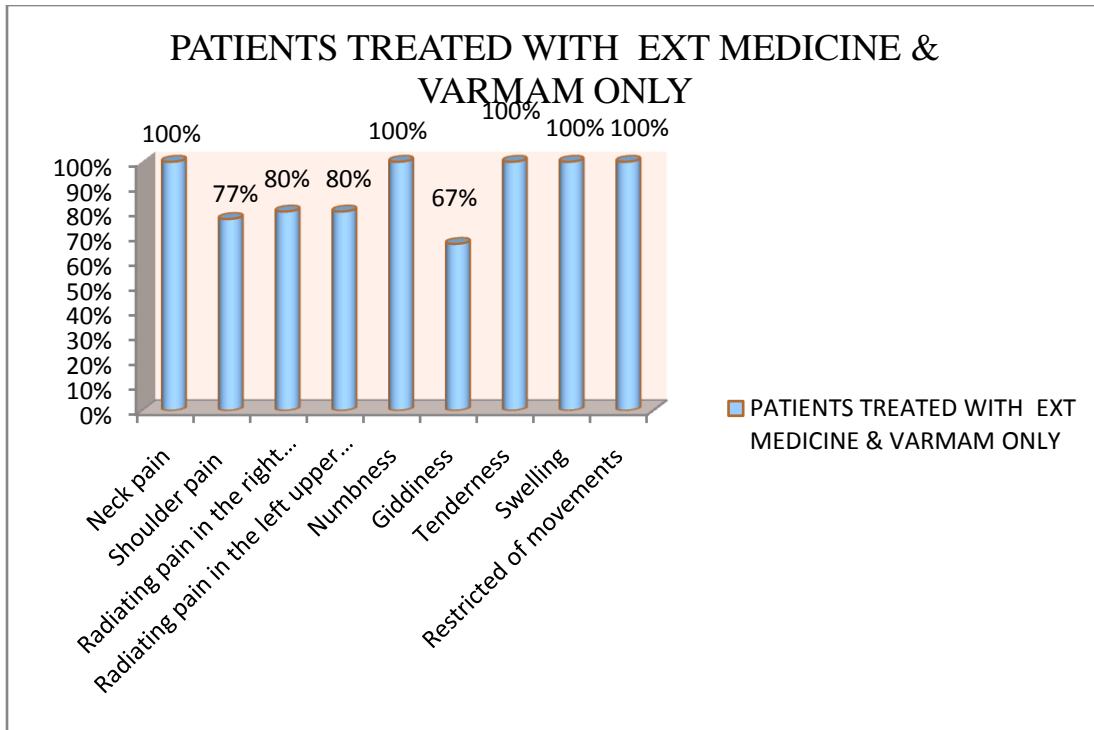


#### INFERENCE:

Mostly 100% of the patient got relief from the neck pain, tenderness, restricted of movements and giddiness. 87% Of the patients relieved from shoulder pain, 80% of them relieved from radiation of pain in the left upper limb, 70% of them got relieved from radiating pain to the right side, 87.5% got relieved from numbness and 90% of them relieved from swelling when treated with providing internal medicine and External oil.

#### CLINICAL PROGRES CHART:

CLINICAL FEATURES	PATIENTS TREATED WITH EXT MEDICINE & VARMAM ONLY		
	BEFORE TREATMENT	AFTER TREATMENT	% OF SUBJECTS RELIEVED FROM SYMPTOMS
Neck pain	20	0	100%
Shoulder pain	13	3	77%
Radiating pain in the right upper limb	10	2	80%
Radiating pain in the left upper limb	5	1	80%
Numbness	2	0	100%
Giddiness	3	1	67%
Tenderness	2	0	100%
Swelling	10	0	100%
Restricted of movements	1	0	100%

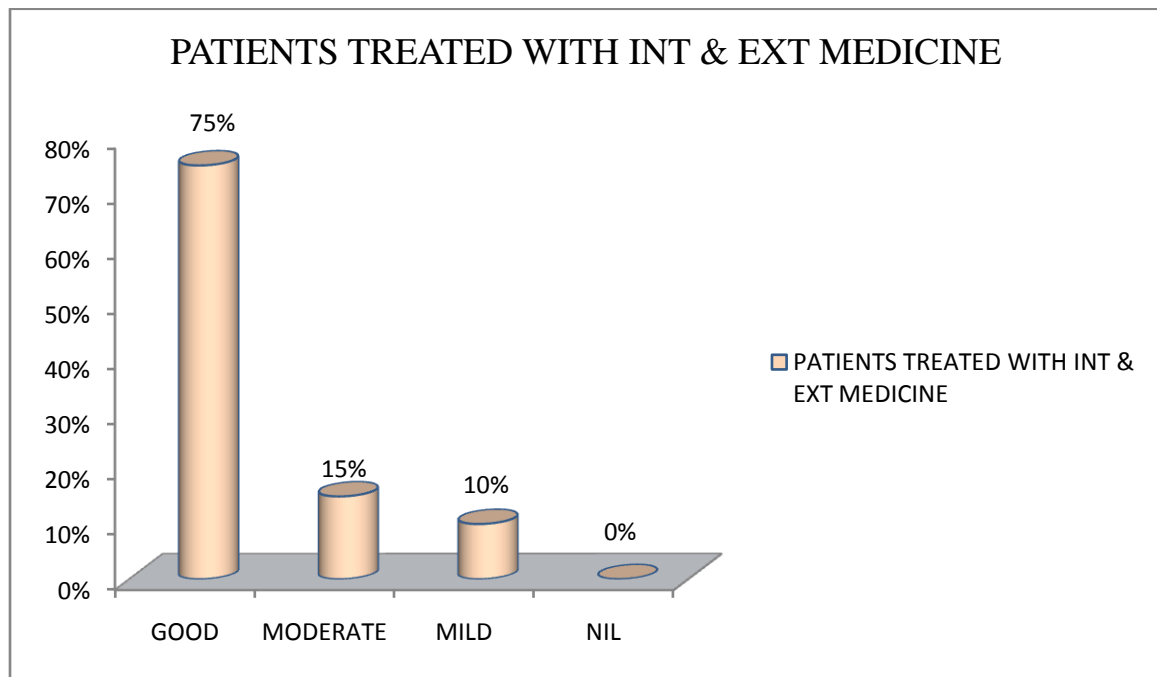


#### INFERENCE:

Mostly 100% of the patient got relief from the neck pain, tenderness, restricted of movements, swelling and numbness. 77% Of the patients relieved from shoulder pain, 80% of them relieved from radiation of pain in the left upper limb and radiating pain to the right side, 67% Of them got relieved from giddiness when treated with providing External oil and varmam therapy.

**RESULT:**

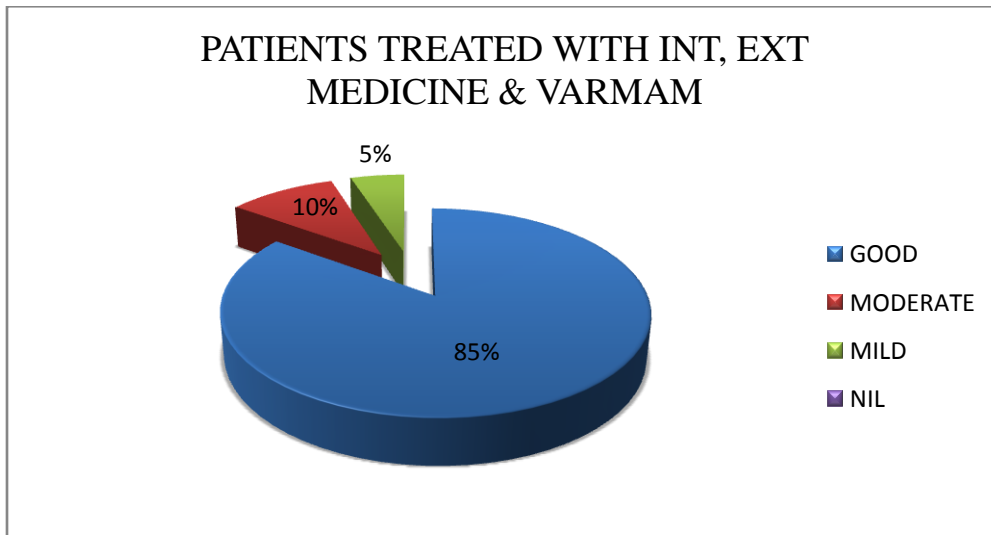
PATIENTS TREATED WITH INT & EXT MEDICINE	PATIENTS	
	NO	PERCENTAGE
Good	15	75
Moderate	3	15
Mild	2	10
Nil	0	0
Total	20	100

**INFERENCE:**

75% of the patients had good results, 15% of them got moderate results and the remaining 10% of them got only mild progress by treating the patients with the internal drug Pancha Pashana Chendhuram and external drug Kurunthotti oil.

RESULT:

PATIENTS TREATED WITH INT, EXT MEDICINE & VARMAM	PATIENTS	
	NO	PERCENTAGE
Good	17	85
Moderate	2	10
Mild	1	5
Nil	0	0
Total	20	100

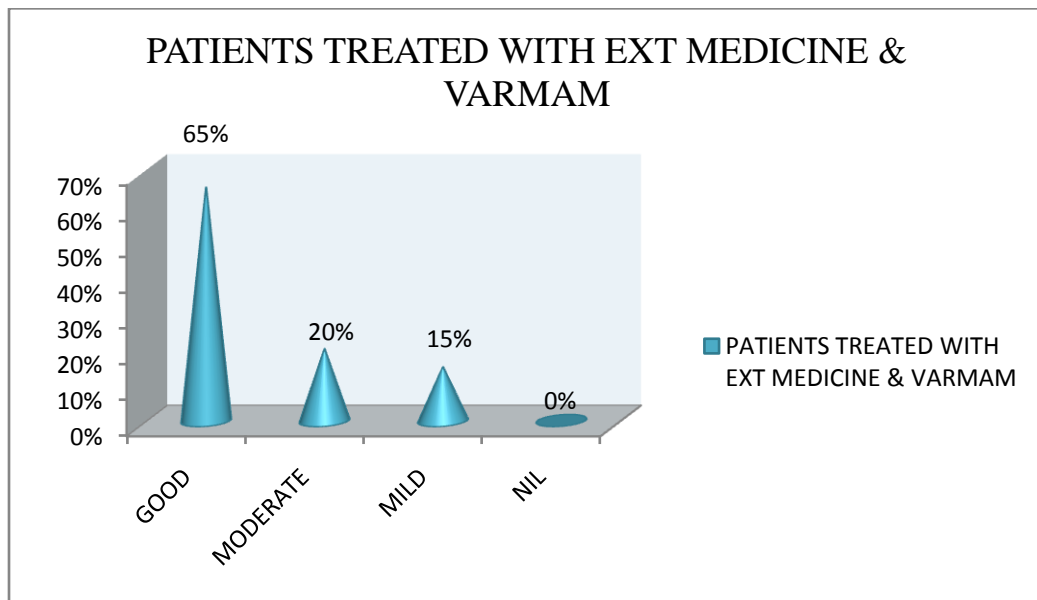


INFERENCE:

85% of the patients had good results, 10% of them got moderate results and the remaining 5% of them got only mild progress by treating the patients with the internal drug Pancha Pashana Chendhooram, external drug Kurunthotti oil & Varmam

**RESULT:**

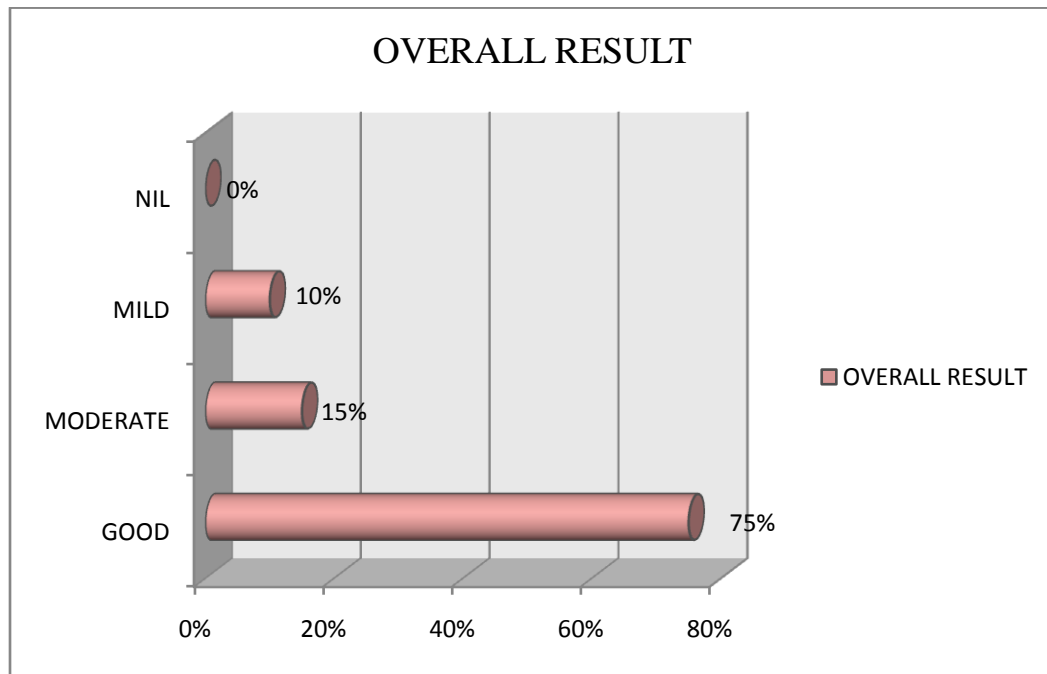
<b>PATIENTS TREATED WITH EXT MEDICINE &amp; VARMAM</b>	<b>PATIENTS</b>	
	<b>NO</b>	<b>PERCENTAGE</b>
Good	13	65
Moderate	4	20
Mild	3	15
Nil	0	0
Total	20	100

**INFERENCE:**

65% of the patients had good results, 20% of them got moderate results and the remaining 15% of them got only mild progress by treating the patients with the external drug Kurunthotti oil & Varmam.

**OVERALL RESULT:**

RESULT	PATIENTS	
	NO	PERCENTAGE
Good	45	75
Moderate	9	15
Mild	6	10
Nil	0	0
Total	60	100

**INFERENCE:**

The overall result of the study was, 75% of the patients had good progress, 15% of them had moderate improvement and 10% had mild progress.

**BLOOD INVESTIGATIONS FOR OPD PATIENTS WITH PANCHA PASHANA CHENDHURAM INTERNAL &  
KURUNTHOTTI OIL EXTERNAL MEDICINE**

Sl. No	OP. NO	AGE/SEX	Hb (gm)		TC (cu.mm)		DC						ESR				Bl sugar	
			BT	AT	BT	AT	N		L		E		½ hr	1/2 hr	1hr	1hr	R	
							BT	AT	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT
1	3534	57/M	11	11.5	7400	7400	62	55	32	42	6	3	30	24	35	22	102	100
2	5934	58/F	10.5	10.7	5300	5300	65	60	30	38	5	2	35	30	50	38	110	112
3	6055	49/F	14.4	14	7300	7300	55	52	39	42	6	6	6	6	15	15	120	109
4	7480	54/F	12	12	8400	8500	60	56	34	39	6	5	8	8	22	21	158	138
5	5313	44/F	9	11	7700	7700	68	64	25	30	7	6	5	5	18	18	105	100
6	5554	48/M	14.1	14.5	7500	7500	59	54	34	38	7	8	30	22	63	45	90	90
7	7139	48/F	12.2	12.1	7800	7808	62	60	33	36	5	4	5	5	12	12	112	112
8	2534	51/F	12.3	12.3	6200	7000	57	53	35	40	8	7	20	20	38	33	138	130
9	2541	48/F	11.2	11.3	5300	5300	51	52	40	40	9	8	5	5	13	13	115	115
10	2912	34/M	14.8	15	6700	6700	51	53	41	40	8	7	2	2	12	12	97	97
11	3222	39/F	13.5	13.5	10100	10000	67	65	25	30	8	5	12	12	25	25	124	124
12	4264	42/F	13.1	13.1	6800	6800	56	54	36	40	8	6	5	5	15	15	104	104
13	4277	56/M	13.2	12.8	8100	8100	72	70	22	24	6	6	10	8	24	24	92	92
14	590	40/F	12.3	12.3	8400	8400	53	55	42	41	5	4	20	12	42	30	96	96
15	678	42/M	13.4	13.4	7800	7800	52	52	41	40	7	8	10	10	24	24	90	90
16	2026	53/F	12.1	12.1	6900	6900	51	54	42	41	7	5	12	10	25	25	140	127
17	3248	30/F	12	12.3	7200	7200	60	60	36	38	4	2	6	6	14	14	104	104
18	3922	45/M	14	14.7	8700	8700	64	62	28	35	8	3	8	8	15	15	118	118
19	3879	38/F	11.5	11.5	6400	6400	52	52	40	41	8	7	7	7	15	15	105	105
20	6348	39/F	13.6	13.5	10600	10490	59	58	34	36	7	6	8	8	15	15	117	117

**BLOOD INVESTIGATIONS FOR OPD PATIENTS WITH PANCHA PASHANA CHENDHURAM INTERNAL, KURUNTHOTTI  
OIL EXTERNAL MEDICINE & VARMAM THERAPY**

Sl. No	OP. NO	AGE/SEX	Hb		TC		DC						ESR				Bl sugar	
							N		L		E		½ hr	1/2 hr	1hr	1hr	R	
			BT	AT	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT
1	2218	38/F	13.1	13.3	12100	11100	67	62	26	33	7	5	10	8	25	22	100	103
2	2213	49/M	11.4	11.6	8800	8900	54	52	38	42	8	6	12	9	24	23	110	110
3	7441	50/F	12	12.8	10100	10000	58	56	34	38	8	6	22	12	40	30	148	128
4	7426	45/M	10	13.3	7000	7100	51	50	39	42	10	8	6	6	12	15	120	120
5	8212	51/F	11.8	11	8400	8400	54	59	38	35	8	6	34	22	70	60	170	140
6	8637	45/F	10.9	12	9400	9400	54	53	41	43	5	4	10	9	25	24	146	137
7	302	51/F	11.6	11.6	7700	7700	68	61	26	32	6	6	10	8	22	22	60	60
8	686	48/M	13.6	14.2	5600	5600	56	58	37	38	7	4	5	5	12	12	265	205
9	739	50/F	11.2	11.2	6000	6200	55	52	40	44	5	4	5	6	10	10	140	130
10	1754	55/M	16.9	16.9	8900	8900	62	60	31	35	7	5	5	5	10	10	90	90
11	2253	45/F	14.3	14.4	4700	6700	60	55	32	38	8	7	7	6	20	20	74	74
12	2586	59/M	14.1	14.1	10700	10700	54	52	38	42	8	6	22	13	40	27	120	120
13	4466	49/F	12.6	12.6	5300	5300	58	57	32	35	10	8	20	14	45	28	150	138
14	7205	35/F	12.2	12.2	4500	4500	60	58	38	40	2	2	5	5	10	10	140	130
15	9004	47/F	8.8	10	11300	11000	67	65	30	32	3	3	30	21	52	32	92	92
16	9745	25/M	11.9	11.9	9800	9800	55	50	40	45	5	5	15	15	20	20	110	110
17	114	36/F	11.5	11.6	5200	5200	50	50	42	44	8	6	3	3	5	5	90	90
18	3899	38/F	11.9	12	7700	7700	67	61	28	35	5	4	5	5	12	12	120	120
19	4448	54/M	13.9	13.9	7700	7800	61	59	32	36	7	5	3	3	10	10	140	133
20	5302	32/M	13	13	6600	6800	56	58	39	37	5	5	10	8	22	22	126	126

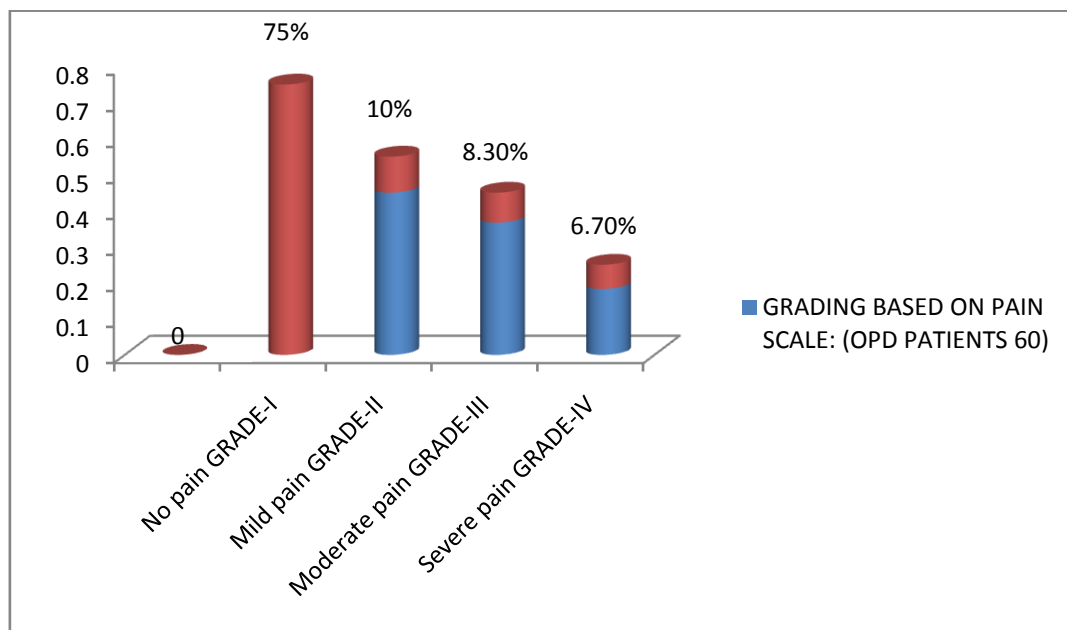


**BLOOD INVESTIGATIONS FOR OPD PATIENTS WITH KURUNTHOTTI OIL EXTERNAL MEDICINE & VARMAM THERAPY**

Sl. No	OP. NO	AGE/SEX	Hb		TC		DC						ESR				Bl sugar	
							N		L		E		½ hr	1/2 hr	1hr	1hr	R	
			BT	AT	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT
1	2430	46/M	15.7	15.7	9300	9400	54	50	36	41	10	9	16	10	40	28	105	103
2	3087	36/F	13	13.2	6900	7000	66	65	27	29	7	6	20	13	52	32	130	120
3	3229	53/F	11.6	11.8	9900	9900	57	56	37	39	6	5	27	20	40	30	130	129
4	3431	54/F	12	12	7800	7800	60	58	32	36	8	6	8	8	15	15	144	136
5	3614	35/F	12.6	12.8	7400	7600	61	59	34	37	5	4	6	6	15	18	120	120
6	5976	60/F	13.3	13.3	9300	9300	68	67	25	27	7	6	17	14	25	25	180	160
7	5755	29/M	14.4	14.4	7100	7400	70	68	25	27	5	5	3	3	7	12	146	136
8	8096	49/M	13.6	13.6	9400	9400	67	60	27	37	6	3	15	15	25	23	140	130
9	9486	39/M	14.5	15.5	5300	6000	57	59	37	36	6	5	2	2	4	4	150	140
10	114	33/M	14.5	14	9500	9500	68	60	22	35	10	5	15	15	22	22	170	155
11	228	40/F	13.6	13.6	10000	9800	60	58	36	39	4	3	20	20	25	25	140	134
12	3422	53/F	16	16	7800	7800	53	53	40	43	7	4	45	25	85	55	160	130
13	4502	42/F	12.5	12.7	9300	9300	57	57	35	35	8	8	48	28	95	65	80	80
14	4502	51/F	13.2	13.4	9800	9900	63	60	28	32	9	8	15	15	27	27	200	160
15	5263	45/M	13.3	13.5	9900	9900	70	64	22	32	8	4	10	10	22	22	122	122
16	6736	37/F	12	12	9800	9800	64	60	29	33	7	7	16	16	30	30	140	134
17	6913	48/F	11.1	11.3	8700	8700	71	65	26	28	3	7	30	22	55	39	138	138
18	5529	50/F	10.4	10.4	7500	7500	60	56	33	38	7	6	20	16	42	34	160	159
19	9355	38/F	10.6	11	8600	8800	45	45	42	43	6	2	9	9	17	17	110	110
20	149	40/F	12.9	13	10000	10000	51	50	42	44	7	6	10	8	22	22	134	134

### GRADING BASED ON PAIN SCALE: (OPD PATIENTS 60)

S.NO	GRADE	BEFORE TREATMENT		AFTER TREATMENT	
		NO.OF CASES	%	NO.OF CASES	%
1.	No pain GRADE-I	0	0%	45	75%
2.	Mild pain GRADE-II	27	45%	6	10%
3.	Moderate pain GRADE-III	22	36.7%	5	8.3%
4.	Severe pain GRADE-IV	11	18.3%	4	6.7%
TOTAL		60	100%	60	100%



### INFERENCE:

There is certainly marked changes noted in the grading of the result.

**LIVER FUNCTION TEST FOR OPD PATIENTS WITH PANCHA PASHANA  
CHENDHURAM INTERNAL & KURUNTHOTTI OIL EXTERNAL MEDICINE**

S.NO	OP.NO	AGE/SEX	LIVER FUNCTION TEST					
			BEFORE TREATMENT			AFTER TREATMENT		
			Serum Alkaline phosphatase	SGOT	SGPT	Serum Alkaline phosphatase	SGOT	SGPT
1	3534	57/M	87 IU/L	20.1 IU/L	26.8 IU/L	86.4 IU/L	20 IU/L	26 IU/L
2	5934	58/F	102 IU/L	22 IU/L	21.9 IU/L	101 IU/L	21 IU/L	21.2 IU/L
3	6055	49/F	82 IU/L	10.7 IU/L	23.4 IU/L	82.1 IU/L	10.5 IU/L	22.1 IU/L
4	7480	54/F	98 IU/L	13.6 IU/L	25 IU/L	97 IU/L	12.6 IU/L	25.2 IU/L
5	5313	44/F	131 IU/L	16 IU/L	14 IU/L	129 IU/L	16.2 IU/L	14 IU/L
6	5554	48/M	112 IU/L	27 IU/L	17.8 IU/L	112 IU/L	25.7 IU/L	17.7 IU/L
7	7139	48/F	86 IU/L	28 IU/L	29 IU/L	85.9 IU/L	27 IU/L	27.4 IU/L
8	2534	51/F	80 IU/L	24.3 IU/L	28 IU/L	80 IU/L	24.1 IU/L	27.5 IU/L
9	2541	48/F	91 IU/L	31 IU/L	34.1 IU/L	91 IU/L	28 IU/L	34 IU/L
10	2912	34/M	89 IU/L	19.9 IU/L	26.3 IU/L	88.8 IU/L	19.6 IU/L	26.3 IU/L
11	3222	39/F	90 IU/L	18.2 IU/L	15 IU/L	90.2 IU/L	18.2 IU/L	16 IU/L
12	4264	42/F	90 IU/L	28.6 IU/L	14.2 IU/L	89.7 IU/L	28 IU/L	14 IU/L
13	4277	56/M	97 IU/L	25.7 IU/L	18 IU/L	96 IU/L	25.1 IU/L	18.1 IU/L
14	590	40/F	107 IU/L	33 IU/L	20.5 IU/L	107 IU/L	31 IU/L	20.2 IU/L
15	678	42/M	112 IU/L	30 IU/L	33.7 IU/L	111 IU/L	30 IU/L	33.7 IU/L
16	2026	53/F	79 IU/L	35 IU/L	34.6 IU/L	78 IU/L	34 IU/L	33.3 IU/L
17	3248	30/F	94 IU/L	29 IU/L	27 IU/L	93.8 IU/L	29 IU/L	28 IU/L
18	3922	45/M	104 IU/L	29.7 IU/L	29.2 IU/L	103 IU/L	28.7 IU/L	29.2 IU/L
19	3879	38/F	106 IU/L	22 IU/L	31.2 IU/L	106 IU/L	21.2 IU/L	30.2 IU/L
20	6348	39/F	95 IU/L	21.9 IU/L	22 IU/L	94.2 IU/L	21.3 IU/L	22 IU/L

**LIVERFUNCTION TEST FOR OPD PATIENTS WITH PANCHA PASHANA  
CHENDHURAM INTERNAL, KURUNTHOTTI OIL EXTERNAL MEDICINE & VARMAM  
THERAPY**

S.NO	OP.NO	AGE/SEX	LIVER FUNCTION TEST					
			BEFORE TREATMENT			AFTER TREATMENT		
			Serum Alkaline phosphatase	SGOT	SGPT	Serum Alkaline phosphatase	SGOT	SGPT
1	2218	38/F	90 IU/L	37 IU/L	42 IU/L	90.1 IU/L	37 IU/L	41 IU/L
2	2213	49/M	83 IU/L	38.6 IU/L	38.8 IU/L	82.3 IU/L	38.1 IU/L	37.8 IU/L
3	7441	50/F	42 IU/L	20 IU/L	33 IU/L	41.2 IU/L	22 IU/L	32.4 IU/L
4	7426	45/M	45 IU/L	24.1 IU/L	31.8 IU/L	44 IU/L	24 IU/L	31.8 IU/L
5	8212	51/F	72 IU/L	22 IU/L	30 IU/L	72 IU/L	21.2 IU/L	31 IU/L
6	8637	45/F	82 IU/L	21.7 IU/L	17.6 IU/L	81.9 IU/L	21.5 IU/L	19 IU/L
7	302	51/F	87 IU/L	33 IU/L	28 IU/L	88 IU/L	32.1 IU/L	28 IU/L
8	686	48/M	84 IU/L	26.3 IU/L	31.4 IU/L	82 IU/L	26.3 IU/L	30.4 IU/L
9	739	50/F	90 IU/L	49 IU/L	32 IU/L	90.3 IU/L	47 IU/L	31 IU/L
10	1754	55/M	114 IU/L	28.8 IU/L	41.9 IU/L	111 IU/L	28.8 IU/L	40 IU/L
11	2253	45/F	67.8 IU/L	18.9 IU/L	12.7 IU/L	67.5 IU/L	17.9 IU/L	13 IU/L
12	2586	59/M	98.9 IU/L	24.7 IU/L	27.8 IU/L	98.9 IU/L	24 IU/L	27.2 IU/L
13	4466	49/F	144 IU/L	41 IU/L	49 IU/L	141 IU/L	40 IU/L	47 IU/L
14	7205	35/F	123 IU/L	40 IU/L	43 IU/L	113 IU/L	39.5 IU/L	42 IU/L
15	9004	47/F	98 IU/L	22.4 IU/L	25.4 IU/L	97 IU/L	22.4 IU/L	24.4 IU/L
16	9745	25/M	68 IU/L	18.9 IU/L	22.1 IU/L	69 IU/L	18.6 IU/L	22.3 IU/L
17	114	36/F	101 IU/L	26.5 IU/L	37 IU/L	100 IU/L	26.5 IU/L	37 IU/L
18	3899	38/F	89.3 IU/L	22 IU/L	41 IU/L	89.1 IU/L	23 IU/L	40 IU/L
19	4448	54/M	105 IU/L	31.4 IU/L	32.4 IU/L	105 IU/L	31.4 IU/L	32.4 IU/L
20	5302	32/M	76.8 IU/L	24.9 IU/L	24.6 IU/L	76.6 IU/L	24.8 IU/L	24.2 IU/L

**RENAL FUNCTION TEST FOR OPD PATIENTS WITH PANCHA PASHANA  
CHENDHURAM INTERNAL & KURUNTHOTTI OIL EXTERNAL MEDICINE**

S.NO	OP.NO	AGE/SEX	RENAL FUNCTION TEST			
			BEFORE TREATMANT		AFTER TREATMANT	
			UREA	CREATININE	UREA	CREATININE
1	3534	57/M	23 mg/dl	1 mg/dl	22.8 mg/dl	1 mg/dl
2	5934	58/F	22 mg/dl	0.9 mg/dl	21 mg/dl	0.8 mg/dl
3	6055	49/F	20.1 mg/dl	0.7 mg/dl	20 mg/dl	0.7 mg/dl
4	7480	54/F	18.5 mg/dl	0.76 mg/dl	18.1 mg/dl	0.6 mg/dl
5	5313	44/F	19 mg/dl	0.8 mg/dl	18.4 mg/dl	0.8 mg/dl
6	5554	48/M	21.9 mg/dl	0.7 mg/dl	21.9 mg/dl	0.8 mg/dl
7	7139	48/F	22 mg/dl	0.9 mg/dl	21 mg/dl	0.6 mg/dl
8	2534	51/F	24 mg/dl	1.1 mg/dl	25 mg/dl	1 mg/dl
9	2541	48/F	19 mg/dl	0.87 mg/dl	19 mg/dl	0.83 mg/dl
10	2912	34/M	27 mg/dl	0.71 mg/dl	26 mg/dl	0.5 mg/dl
11	3222	39/F	21.6 mg/dl	0.47 mg/dl	21.6 mg/dl	0.47 mg/dl
12	4264	42/F	18.4 mg/dl	0.60 mg/dl	18.1 mg/dl	0.60 mg/dl
13	4277	56/M	18.2 mg/dl	0.83 mg/dl	18.2 mg/dl	0.73 mg/dl
14	590	40/F	19.3 mg/dl	0.78 mg/dl	18.3 mg/dl	0.78 mg/dl
15	678	42/M	24.9 mg/dl	1 mg/dl	24 mg/dl	0.91 mg/dl
16	2026	53/F	22.3 mg/dl	0.92 mg/dl	22.3 mg/dl	0.92 mg/dl
17	3248	30/F	17.8 mg/dl	0.6 mg/dl	17.8 mg/dl	0.5 mg/dl
18	3922	45/M	20.5 mg/dl	0.5 mg/dl	20.2 mg/dl	0.4 mg/dl
19	3879	38/F	21 mg/dl	0.85 mg/dl	23 mg/dl	0.7 mg/dl
20	6348	39/F	19.6mg/dl	0.71 mg/dl	19.6mg/dl	0.6 mg/dl

**RENAL FUNCTION TEST FOR OPD PATIENTS WITH PANCHA PASHANA  
CHENDHURAM INTERNAL, KURUNTHOTTI OIL EXTERNAL MEDICINE & VARMAM  
THERAPY**

S.NO	OP.NO	AGE/SEX	RENAL FUNCTION TEST			
			BEFORE TREATMANT		AFTER TREATMANT	
			UREA	CREATININE	UREA	CREATININE
1	2218	38/F	25 mg/dl	0.87 mg/dl	24.5 mg/dl	0.74 mg/dl
2	2213	49/M	33 mg/dl	1 mg/dl	24.5 mg/dl	0.84 mg/dl
3	7441	50/F	31 mg/dl	0.9 mg/dl	30 mg/dl	0.7 mg/dl
4	7426	45/M	35 mg/dl	0.8 mg/dl	33 mg/dl	0.8 mg/dl
5	8212	51/F	30 mg/dl	0.89 mg/dl	30.1 mg/dl	0.8 mg/dl
6	8637	45/F	28 mg/dl	1 mg/dl	27 mg/dl	0.9 mg/dl
7	302	51/F	34.1 mg/dl	0.5 mg/dl	34 mg/dl	0.5 mg/dl
8	686	48/M	20.5 mg/dl	0.75 mg/dl	20 mg/dl	0.75 mg/dl
9	739	50/F	25 mg/dl	0.8 mg/dl	25 mg/dl	0.72 mg/dl
10	1754	55/M	27.8 mg/dl	0.67 mg/dl	27.8 mg/dl	0.67 mg/dl
11	2253	45/F	22 mg/dl	0.80 mg/dl	21.9 mg/dl	0.80 mg/dl
12	2586	59/M	32.7 mg/dl	0.91 mg/dl	32.5 mg/dl	0.90 mg/dl
13	4466	49/F	31 mg/l	0.9 mg/dl	31 mg/l	0.8 mg/dl
14	7205	35/F	22.9 mg/dl	0.6 mg/dl	22.6 mg/dl	0.6 mg/dl
15	9004	47/F	27.6 mg/dl	0.5 mg/dl	26.6 mg/dl	0.5 mg/dl
16	9745	25/M	29 mg/dl	0.7 mg/dl	29 mg/dl	0.7 mg/dl
17	114	36/F	30 mg/dl	0.64 mg/dl	31 mg/dl	0.6 mg/dl
18	3899	38/F	26 mg/dl	0.6 mg/dl	26 mg/dl	0.6 mg/dl
19	4448	54/M	32.8 mg/dl	1.1 mg/dl	32 mg/dl	1 mg/dl
20	5302	32/M	25.7 mg/dl	0.78 mg/dl	25.7 mg/dl	0.8 mg/dl

**URINE ANALYSIS FOR OPD PATIENTS WITH PANCHA PASHANA CHENDHURAM  
(INT), KURUNTHOTTI OIL (EXT)**

S.NO	OP.NO	AGE/SEX	URINE ANALYSIS					
			ALBUMIN		SUGAR		DEPOSIT	
			BT	AT	BT	AT	BT	AT
1	3534	57/M	NIL	NIL	NIL	NIL	0-2	1-2
2	5934	58/F	NIL	NIL	NIL	NIL	NIL	1-3
3	6055	49/F	NIL	NIL	NIL	NIL	0-3	0-1
4	7480	54/F	NIL	NIL	NIL	NIL	2-3	1-2
5	5313	44/F	NIL	NIL	NIL	NIL	2-4	0-2
6	5554	48/M	NIL	NIL	NIL	NIL	1-3	0-2
7	7139	48/F	NIL	NIL	NIL	NIL	1-5	1-2
8	2534	51/F	NIL	NIL	NIL	NIL	1-3	NIL
9	2541	48/F	NIL	NIL	NIL	NIL	1-2	0-1
10	2912	34/M	NIL	NIL	NIL	NIL	NIL	0-1
11	3222	39/F	NIL	NIL	NIL	NIL	1-2	0-1
12	4264	42/F	NIL	NIL	NIL	NIL	0-2	NIL
13	4277	56/M	NIL	NIL	NIL	NIL	6-10	0-8
14	590	40/F	NIL	NIL	NIL	NIL	1-2	0-1
15	678	42/M	NIL	NIL	NIL	NIL	0-3	1-2
16	2026	53/F	NIL	NIL	NIL	NIL	2-5	0-3
17	3248	30/F	NIL	NIL	NIL	NIL	0-1	NIL
18	3922	45/M	NIL	NIL	NIL	NIL	NIL	0-1
19	3879	38/F	NIL	NIL	NIL	NIL	1-5	0-3
20	6348	39/F	NIL	NIL	NIL	NIL	NIL	NIL

**URINE ANALYSIS FOR OPD PATIENTS WITH PANCHA PASHANA CHENDHURAM  
INTERNAL, KURUNTHOTTI OIL EXTERNAL MEDICINE & VARMAM THERAPY**

S.NO	OP.NO	AGE/SEX	URINE ANALYSIS					
			ALBUMIN		SUGAR		DEPOSIT	
			BT	AT	BT	AT	BT	AT
1	2218	38/F	NIL	NIL	NIL	NIL	NIL	NIL
2	2213	49/M	NIL	NIL	NIL	NIL	NIL	1-2
3	7441	50/F	NIL	NIL	NIL	NIL	2-4	0-2
4	7426	45/M	NIL	NIL	NIL	NIL	NIL	NIL
5	8212	51/F	NIL	NIL	NIL	NIL	3-4	0-2
6	8637	45/F	NIL	NIL	NIL	NIL	1-3	0-1
7	302	51/F	NIL	NIL	NIL	NIL	NIL	1-2
8	686	48/M	NIL	NIL	NIL	NIL	1-2	NIL
9	739	50/F	NIL	NIL	NIL	NIL	NIL	NIL
10	1754	55/M	NIL	NIL	NIL	NIL	2-3	1-2
11	2253	45/F	NIL	NIL	NIL	NIL	NIL	0-1
12	2586	59/M	NIL	NIL	NIL	NIL	1-4	0-2
13	4466	49/F	NIL	NIL	NIL	NIL	1-3	1-2
14	7205	35/F	NIL	NIL	NIL	NIL	NIL	NIL
15	9004	47/F	NIL	NIL	NIL	NIL	0-2	0-1
16	9745	25/M	NIL	NIL	NIL	NIL	NIL	NIL
17	114	36/F	NIL	NIL	NIL	NIL	NIL	NIL
18	3899	38/F	NIL	NIL	NIL	NIL	NIL	0-1
19	4448	54/M	NIL	NIL	NIL	NIL	NIL	NIL
20	5302	32/M	NIL	NIL	NIL	NIL	NIL	0-1



**URINE ANALYSIS FOR OPD PATIENTS WITH KURUNTHOTTI OIL EXTERNAL  
MEDICINE & VARMAM THERAPY**

S.NO	OP.NO	AGE/SEX	URINE ANALYSIS					
			ALBUMIN		SUGAR		DEPOSIT	
			BT	AT	BT	AT	BT	AT
1	2430	46/M	NIL	NIL	NIL	NIL	NIL	NIL
2	3087	36/F	NIL	NIL	NIL	NIL	1-2	0-1
3	3229	53/F	NIL	NIL	NIL	NIL	1-3	1-2
4	3431	54/F	NIL	NIL	NIL	NIL	2-4	1-2
5	3614	35/F	NIL	NIL	NIL	NIL	0-3	0-2
6	5976	60/F	NIL	NIL	NIL	NIL	0-2	0-3
7	5755	29/M	NIL	NIL	NIL	NIL	0-1	0-2
8	8096	49/M	NIL	NIL	NIL	NIL	1-3	1-2
9	9486	39/M	NIL	NIL	NIL	NIL	NIL	NIL
10	114	33/M	NIL	NIL	NIL	NIL	1-2	NIL
11	228	40/F	NIL	NIL	NIL	NIL	NIL	NIL
12	3422	53/F	NIL	NIL	NIL	NIL	0-3	0-1
13	4502	42/F	NIL	NIL	NIL	NIL	0-2	1-3
14	4502	51/F	NIL	NIL	NIL	NIL	0-4	0-3
15	5263	45/M	NIL	NIL	NIL	NIL	0-5	1-3
16	6736	37/F	NIL	NIL	NIL	NIL	2-3	1-2
17	6913	48/F	NIL	NIL	NIL	NIL	4-5	0-2
18	5529	50/F	NIL	NIL	NIL	NIL	0-3	0-1
19	9355	38/F	NIL	NIL	NIL	NIL	1-3	0-1
20	149	40/F	NIL	NIL	NIL	NIL	0-3	0-2

## CLINICAL PROGNOSIS

### Treatment for Saganavatham(Cervical Spondylosis):

The most popular non parametric statistical tool, namely, McNemar Test analysis has been employed to analyses the effectiveness with the help of a hypothesis.

S. No	Clinical features	Before Treatment	After Treatment
		n%	n%
1.	Neck pain	60(100)	0(0)**
2.	Shoulder pain	43(71)	7(12)**
3.	Radiating pain in the right upper limb	30(50)	7(12)**
4.	Radiating pain in the left upper limb	27(45)	5(8)**
5.	Numbness	22(36.5)	4(6.5)**
6.	Giddiness	15(25)	2(3)**
7.	Tenderness	12(20)	0(0)**
8.	Swelling	33(54.5)	2(3)**
9.	Restriction of movements(ROM)	3(5)	0(0) *

McNemat test, C.I: 95%, \*P<0.05; \*\*P<0.01

**Software:** spss17 version

**Number of cases:** 60

### Inference:

Since the p value is significant in all clinical features. So there is significant reducing of clinical features among the patients for the treatment of saganavatham(Cervical Spondylosis). Hence it is concluded that the treatment was effective and **significant**.

### Treatment for Saganavatham(Cervical Spondylosis):

The most popular non parametric statistical tool, namely, McNemar Test analysis has been employed to analyses the effectiveness with the help of a hypothesis.

**Improvement in subjects treated with Internal, External Medicine & Varmam therapy.**

S. No	Clinical features	Before Treatment	After Treatment
		n%	n%
1.	Neck pain	20(100)	0(0)**
2.	Shoulder pain	15 (75)	2(10)**
3.	Radiating pain in the right upper limb	10(50)	2(10)**
4.	Radiating pain in the left upper limb	12(60)	2(10)**
5.	Numbness	12(60)	3(15)**
6.	Giddiness	7(35)	1(5)**
7.	Tenderness	5(25)	0(0)**
8.	Swelling	13(65)	1(5)**
9.	Restriction of movements(ROM)	1(5)	0(0) *

McNemat test, C.I: 95%, \*P<0.05; \*\*P<0.01

**Software:** spss17 version

**Number of cases:** 20

**Inference:**

Since the p value is significant in all clinical features. So there is significant reducing of clinical features among the patients for the treatment of Saganavatham(Cervical Spondylosis). Hence it is concluded that the treatment was effective and **significant**.

**Treatment for Saganavatham(Cervical Spondylosis):**

The most popular non parametric statistical tool, namely, McNemar Test analysis has been employed to analyse the effectiveness with the help of a hypothesis.

**Improvement in subjects treated with Internal& External Medicine only.**

S. No	Clinical features	Before Treatment	After Treatment
		n%	n%
1.	Neck pain	20(100)	0(0)**
2.	Shoulder pain	15(75)	2(10)**
3.	Radiating pain in the right upper limb	10(50)	3(15)**
4.	Radiating pain in the left upper limb	10(50)	2(10)**
5.	Numbness	8(40)	1(5)**
6.	Giddiness	5(25)	0(0)**
7.	Tenderness	5(25)	0(0)**
8.	Swelling	10(50)	1(5)**
9.	Restriction of movements(ROM)	1(5)	0(0)*

McNemat test, C.I: 95%, \*P<0.05; \*\*P<0.01

**Software:** spss17 version

**Number of cases:** 20

**Inference:**

Since the p value is significant in all clinical features. So there is significant reducing of clinical features among the patients for the treatment of Saganavatham (Cervical Spondylosis). Hence it is concluded that the treatment was effective and **significant**.

**Improvement in subjects treated with External Medicine & Varmamtherapy only.**

S. No	Clinical features	Before Treatment	After Treatment
		n%	n%
1.	Neck pain	20(100)	0(0)**
2.	Shoulder pain	13(65)	3(15)**
3.	Radiating pain in the right upper limb	10(50)	2(10)**
4.	Radiating pain in the left upper limb	5(25)	1(5)**
5.	Numbness	2(10)	0(0)*
6.	Giddiness	3(15)	1(5)*
7.	Tenderness	2(10)	0(0)*
8.	Swelling	10(50)	0(0)**
9.	Restriction of movements(ROM)	1(5)	0(0)*

McNemat test, C.I: 95%, \*P<0.05; \*\*P<0.01

**Software:** spss17 version

**Number of cases:** 20

**Inference:**

Since the p value is significant in all clinical features. So there is significant reducing of clinical features among the patients for the treatment of Saganavatham (Cervical Spondylosis). Hence it is concluded that the treatment was effective and **significant**.

**Liver Function Test For OPD Patients with Pancha Pashana Chendhuras  
Internal & Kurunthotti Oil External Medicine**

S.No.	Investigations	Before Treatment Mean±SD n= 20	After Treatment Mean±SD n= 20	P value
1	SGOT	24.28±6.56	23.56±6.24	<b>&lt;0.001</b>
2	SGPT	24.58±6.55	24.30±6.33	<b>0.084</b>
3	Alkaline Phosphatase	96.60±12.83	90.10±12.54	<b>&lt;0.001</b>

C.I: 95%; Paired samples t test. Where  $p < 0.001$ ,  $p < 0.05$  represents statistically significant.

**Liver Function Test For OPD Patients with Pancha Pashana Chendhuras  
Internal, Kurunthotti Oil External Medicine & Varmam Therapy**

S.No.	Investigations	Before Treatment Mean±SD n= 20	After Treatment Mean±SD n= 20	P value
1	SGOT	28.56±8.55	28.30±8.16	<b>0.172</b>
2	SGPT	32.07±9.10	31.59±8.51	<b>&lt;0.05</b>
3	Alkaline Phosphatase	88.04±24.01	86.99±22.92	<b>0.063</b>

C.I: 95%; Paired samples t test. Where  $p < 0.001$ ,  $p < 0.05$  represents statistically significant.

**Renal Function Test For OPD Patients With Pancha Pashana Chendhuras  
Internal & Kurunthotti Oil External Medicine**

S.No.	Investigations	Before Treatment Mean±SD n= 20	After Treatment Mean±SD n= 20	P value
1	Urea	21.00±2.45	20.81±2.47	<b>0.252</b>
2	Creatinine	0.78±0.16	0.71±0.17	<b>&lt;0.05</b>

C.I: 95%; Paired samples t test. Where  $p < 0.001$ ,  $p < 0.05$  represents statistically significant.

**Renal Function Test For OPD Patients with PanchaPashanaChendharam  
Internal, Kurunthotti Oil External Medicine &Varmam Therapy**

<b>S.No.</b>	<b>Investigations</b>	<b>Before Treatment Mean±SD n= 20</b>	<b>After Treatment Mean±SD n= 20</b>	<b>P value</b>
1	Urea	28.45±4.13	27.71±3.96	<b>0.100</b>
2	Creatinine	0.78±0.16	0.73±0.13	<b>&lt;0.05</b>

C.I: 95%; Paired samples t test. Where  $p < 0.001$ ,  $p < 0.05$  represents statistically significant.


## 6.DISCUSSION


Cervical spondylosis is a common degenerative condition of the cervical spine. It is common in the middle aged and in the elderly particularly in those whose occupation involves a posture of prolonged neck flexion. This condition is increasing nowadays among the people working incorporate companies, white collar jobs, owing to the postural changes, poor dietary habits, the factor contributing to the degeneration of the bone, especially of the cervical region is becoming common. This dissertation work includes literary collection of both siddha and modern aspects of the disease. The clinical features of Saganavatham are correlated with Cervicalspondylosis in Modern medicine. Severity of the disease has become a challenge for the practitioners to discover newer therapies. Various treatments and medicines have been tried previously for treating this condition. So in this study I choose this,

The Internal Medicine “PANCHA PAHANA CHENDHURAM” was analyzed and Physico-chemical analysis was done. 60 patients were admitted for the trial in the out-patient ward. Of which 20 patient was treated with Internal medicine and External oil, 20 patients were treated by giving Internal medicine, External oil and Varmam therapy and 20 patients were treated by giving External oil and Varmam therapy.


Progress of the patients was followed up and documented regularly. Various criteria like distribution of gender, age, kaalam (seasonal variation),Occupational status and diet were assessed. Clinical manifestations and assessment of the enhancement in the prognosis of the disease with trial drugs Internal, External and Varmam therapy with were taken into account for evaluating the efficacy of trial drugs.


### 1. DISTRIBUTION ACCORDING TO AGE:

 65% of patients in the age group of 20 – 40 years.

 35% of patients in the age group of 40 – 60 years.

### 2. DISTRIBUTION ACCORDING TO GENDER:

 33% of patients were in the gender of male.

 67% of patients were in the gender of female.



### **3. DISTRIBUTION ACCORDING TO OCCUPATION:**

- ✚ Mostly home makers and coolie workers are affected.

### **4. DISTRIBUTION ACCORDING TO SOCIO-ECONOMIC STATUS:**

- ✚ Mostly 75% were affected in the socio economic status of lower income group.
- ✚ 13.3% were affected in the socio economic status of middle income group.
- ✚ 11.7% were affected in the socio economic status of higher income group.

### **5. DISTRIBUTION ACCORDING TO DIET:**

- ✚ According to diet history 33.3% of cases had mixed diet and 66.7% of cases had vegetarian diet.
- ✚ The highest incidence of cases was observed in mixed diet of food habits.

### **6. DISTRIBUTION ACCORDING TO DURATION OF ILLNESS:**

- ✚ Mostly 30% of the patients have the above 2years of illness in the disease.
- ✚ 20% of the patients have the 1 – 2 years of illness in the disease.
- ✚ 16.7% of the patients have the 6month – 1year of illness in the disease.
- ✚ 23.3% of the patients have the 3 – 6 month of illness in the disease.
- ✚ 10% of the patients have the below 3 month of illness in the disease.

### **7. DISTRIBUTION ACCORDING TO PARUVA KAALANGAL:**

- ✚ Mostly this disease occurs in Munpani, Kaar, ElavenilKaalam.

### **8. DISTRIBUTION ACCORDING TO THINAI:**

- ✚ 100% of the patient belongs to the Neidhalthinai. The Neidhal land is more prone to affected by all types of diseases.

#### **9. DISTRIBUTION ACCORDING TO KAALAM:**

- ✚ The patients included in the study belonged only to vatha and pittha period of life. Incidence was more in Pittha period of life (53.3%) than in Vatha period of life (46.7%).

#### **10. DISTRIBUTION ACCORDING TO VALI:**

- ✚ During the activity of Viyanan, samanana, devathathan and abanan the incidence percentages were 100%, 100%, 8.3% and 16.7% respectively.

#### **11. DISTRIBUTION ACCORDING TO AZHAL:**

- ✚ During the activity of Saathagam and ranjagam, the incidence percentages were 100% and 8.3% respectively.

#### **12. DISTRIBUTION ACCORDING TO IYYAM:**

- ✚ During the activity of santhigam the incidence percentages were 100% respectively.

#### **13. DISTRIBUTION ACCORDING TO ENVAGAI THERVUGAL:**

- ✚ In Envagaithervu, Naadi was affected in 100% of patients.
- ✚ Malam was affected in 16.7% of patients.

#### **14. TOXICITY STUDY:**

- ✚ The acute and repeated 28 days oral toxicity studies of PPC showed did not produce any toxicity signs in wistar albino rats. Daily administration of PPC at different doses 10 mg/kg, 20 mg/kg for 28 days were tolerated by the rats without any mortality and morbidity, indicating the drug tolerance. Hence the Herbo-mineral formulation PPC can be considered as a safe drug for prolonged duration use as revealed by toxicological studies.

#### **15. PHARMACOLOGICAL ACTIVITY:**

- ✚ Pain is the predominant symptom in Cervical Spondylosis which can be subsided by the trial drug due to the presence of Analgesic activity.

#### **16. DISTRIBUTION ACCORDING TO CLINICAL FEATURES CHART:**

- ✚ Mostly 80% of the patients only have all the above said clinical features of the presenting illness.

#### **17. CLINICAL PROGRES TREATED WITH INT, EXT MEDICINE & VARMAM:**

- ✚ Mostly 100% of the patient got relief from the neck pain, tenderness and restricted of movements.
- ✚ 87% Of the patients relieved from shoulder pain.
- ✚ 83.3% of them relieved from radiation of pain in the left upper limb.
- ✚ 80% of them got relieved from radiating pain to the right side.
- ✚ 75% got relieved from numbness.
- ✚ 86% of them got relieved from giddiness.
- ✚ 92.3% of them relieved from swelling.

#### **18. CLINICAL PROGRES TREATED WITH INT MEDICINE AND EXT OIL ONLY:**

- ✚ Mostly 100% of the patient got relief from the neck pain, tenderness, restricted of movements and giddiness.
- ✚ 87% Of the patients relieved from shoulder pain.
- ✚ 80% of them relieved from radiation of pain in the left upper limb.
- ✚ 70% of them got relieved from radiating pain to the right side.
- ✚ 87.5% got relieved from numbness.
- ✚ 90% of them relieved from swelling.

#### **19. CLINICAL PROGRES TREATED WITH EXT OIL & VARMAM ONLY:**

- ✚ Mostly 100% of the patient got relief from the neck pain, tenderness, restricted of movements, swelling and numbness.
- ✚ 77% Of the patients relieved from shoulder pain.
- ✚ 80% of them relieved from radiation of pain in the left upper limb, radiating pain to the right side.
- ✚ 67% of them got relieved from giddiness.

**20. RESULT - PATIENTS TREATED WITH INT & EXT MEDICINE:**

- + 75% of the patients had good results.
- + 15% of them got moderate results.
- + 10% of them got only mild progress.

**21. RESULT - PATIENTS TREATED WITH INT, EXT MEDICINE & VARMAM:**

- + 85% of the patients had good results.
- + 10% of them got moderate results.
- + 5% of them got only mild progress.

**22. RESULT - PATIENTS TREATED WITH EXT MEDICINE & VARMAM:**

- + 65% of the patients had good results.
- + 20% of them got moderate results.
- + 15% of them got only mild progress.

**23. OVERALL RESULTS:**

- + The overall result of the study was, 75% of the patients had good progress.
- + 15% of them had moderate improvement.
- + 10% had mild progress

**24. GRADING OF RESULT:**

- + There is certainly marked improvements noted in the grading of the result before and after improvement.

**25. STATISTICAL REPORT:**

- + Since the p value is significant in all clinical features. So there is significant reducing of clinical features among the patients for the treatment of Saganavatham (Cervical Spondylosis). Hence it is concluded that the treatment was effective and significant.
- + P value for RFT & LFT is of significant value. Hence the drug proves to be effective and significant.

## 7.SUMMARY

An open clinical trial with the Siddha trial drug PanchaPashanaChendhuram (Int), Kurunthotti oil (Ext) and Varmam therapy in Saganavatham (Cervical spondylosis) has been chosen for the dissertation work by the author.

- Various literatures dealing with Saganavatham have been collected from various Siddha and Modern text books and also Drugs review is also said.
- Standard operating procedure for both internal and external drugs was standardized.
- Standardization of drug (PPC) through both traditional and modern way of technique physico chemical analysis had been done.
- Pre-clinical toxicity study was done for the trial drug PPC using wistar albino rats. Toxicity study in animals was carried out after obtaining proper permission from Institutional Animal Ethical Committee (IAEC).
- Anti – inflammatory activity for the trial drug PPC was done.
- Analgesic activity for the trial drug PPC was done by Eddy's Hot plate method in rats
- The study is conducted after the drug being screened by the Screening committee and the trial is also approved by the Institutional Ethical Committee (IEC). A clinical trial was conducted to evaluate the efficacy of trial drugs PPC (Int), Kurunthotti oil (Ext) & Varmam therapy in Saganavatham patients, 60 patients of both sex and in age group between 18 to 60 were selected for the study.
- In OPD 20 patients were treated with Internal, External drugs and Varmam therapy, 20 patients were treated with Internal and External drugs, 20 patients were treated with External oil and Varmam therapy.
- All the details about the study and the drugs were informed to the patients in their vernacular language and consent forms duly signed by them were obtained from them. Separate proforma was maintained for each and every patient.

- Before starting the treatment, the blood samples of the selected patients were subjected to investigation and X-ray were taken.
- From the first day onwards PanchaPashanachendhram, 65 mg twice daily was  
Giveninternally, Kurunthotti oil for externaluse and Varmam were given to thepatients.
- After the study period the patients were subjected to investigation, clinical assessment and X-ray.
- The clinical assessment was assessed by using pain assessment scale.
- The safety of the trial drug PPC was assessed by comparing the safety parameters (LFT and RFT) before and after treatment.
- Finally statistical analysis was performed to assess the significance of the trial.

## 8.CONCLUSION

- ❖ Organoleptic characters exposed standardization of Chendhuram.
- ❖ PPC has been screened for toxic effects. For sub- acute toxicity studies 2 doses of 5X dose is 10mg/animal,10X dose is 20mg/animal were administered orally for 28 days. Animals were observed for physiological and behavioral changes, food and water intake, body weight changes and mortality. All the animals were sacrificed and changes in organ weights and histology were examined no mortality was observed and on treatment related changes occur. Hence the PPC had no toxic effect the drug to be safe.
- ❖ PPC have significant effect of anti-inflammatory and analgesic activity.  
Efficacy of the drugs PPC, Kurunthotti thailam and Varmam was evaluated in Saganavatham patients. The result of the study was concluded by reducing PAIN Assesment scale. There is certainly marked changes noted in the grading of the result. 75% Of the cases out of 60 didn't have a Pain.
- ❖ The overall result of the study was, 75% of the patients had good progress, 15% of them had moderate improvement and 10% had mild progress.
- ❖ It was safe and well-tolerated as none of the patients showed significant change in LFT and RFT before and after the trial.
- ❖ During the course of treatment there were no adverse effects or unwanted drug reactions in GIT, RS, CVS and Excretory systems such as nausea, mouth ulcers, abdominal discomfort, dyspnoea, cough, palpitation, raised blood pressure, dysuria/oliguria, pedal edema and colour changes in the palm.
- ❖ Even though SOP of PPC have variation from textual SOP, it has ended in finished product that satisfied the traditional standardization techniques, modern standardization techniques and it proves the safety and efficacy in treating the diseases in both pre-clinical and clinical aspect.
- ❖ The drug is effective in short duration of treatment in very little amount of dose are other advantages. All groups of economic peoples using this medicine have good response.

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**GOVERNMENT SIDDHA MEDICAL COLLEGE**

ARIGNAR ANNA GOVERNMENT HOSPITAL OF INDIAN MEDICINE

CHENNAI – 600 106

**AN OPEN COMPARATIVE CLINICAL TRIAL ON SAGANAVATHAM  
(CERVICAL SPONDYLOSIS) WITH THE EVALUATION OF SIDDHA TRIAL  
DRUG “PANCHAPASHANA CHENDHURAM” (INTERNAL)  
“KURUNTHOTTI THAILAM” (EXTERNAL) AND ‘VARMAM THERAPY’**

**FORM 1 - SCREENING AND SELECTION PROFORMA**

**1. OP NO:** .....

**2. NAME:** .....

**3. AGE:** ..... **4. GENDER:** .....

**5. OCCUPATION:** ..... **6. INCOME:**

.....

**7. ADDRESS:** .....

.....

.....

**8. CONTACT NO:** .....

**INCLUSION CRITERIA**

- Neck stiffness
- Pain in the nape of the neck
- Radiating pain to the upper limbs up to the tip of the fingers
- With or without numbness in the upper limbs
- Age: Between 18- 60 years
- Sex : Both male and female
- Limitations of movements
- Willing to sign the consent form

**EXCLUSION CRITERIA**

(Clinical history)

- Atlanto axial subluxation
- Scalene syndrome
- Adhesive capsulitis
- Supraspinatus tendinitis
- Congenital deformities of spine like Torticollis, spina bifida & scoliosis
- Sero Negative Spondylarthropathy like Ankylosing spondylitis, Polyarthrititis etc
- Syringomyelia
- Cardiac diseases
- Pregnant women and lactating mothers
- Neoplasms
- Meningitis
- Wry neck
- TB in cervical spine( caries spine)
- Patients with any other serious systemic illness

**ADMITTED TO TRIAL:**

**YES**

**NO**

**If yes,**

**OPD/IPD**

Date:

Station:

Signature of the Guide:

Signature of the Investigator:

**GOVERNMENT SIDDHA MEDICAL COLLEGE**

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CHENNAI – 600 106

**AN OPEN COMPARATIVE CLINICAL TRIAL ON SAGANAVATHAM  
(CERVICAL SPONDYLOSIS) WITH THE EVALUATION OF SIDDHA TRIAL  
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“KURUNTHOTTI THAILAM” (EXTERNAL) AND ‘VARMAM THERAPY’**

**FORM II -HISTORY TAKING PROFORMA**

**1. SERIAL NO OF THE CASE: ..... 2.OP/IP NO:**

.....

**3. NAME: ..... 4. AGE: ..... 5. GENDER:**

.....

**5. OCCUPATION: ..... 6. INCOME:**

.....

**7.COMPLAINTS & DURATION:**

**8. CHIEF COMPLAINTS WITH DURATION**

**HISTORY OF PRESENT ILLNESS**

<b>1. Onset of disease</b>	:	Acute	Insidious
<b>2. Duration of disease</b>	:		
<b>3. Treatment given so far</b>	:	Ayurvedic medicine	Modern
Medicine			

Unani  
Homeopathy

**8.PERSONAL HISTORY:**

PERSONAL HABITS	YES	NO	IF YES, SPECIFY DURATION/QUANTITY
Smoking			
Tobacco Chewing			
Alcoholism			
Narcotic drugs			

**9. HISTORY OF PREVIOUS ILLNESS/PELVIC SURGERY****10. DIETARY HABIT:**

1. Vegetarian
2. Non-vegetarian

**11. FAMILY HISTORY:**

Whether this problem runs in family?

1. Yes

2.No

If yes, mention the relationship of affected person(s) -----

History of previous investigations if any -----

Date:

Station:

Signature of the Guide:

Signature of the Investigator:

**GOVERNMENT SIDDHA MEDICAL COLLEGE**

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CHENNAI – 600 106

**DEPARTMENT OF SIRAPPU MARUTHUVAM**

**AN OPEN COMPARATIVE CLINICAL TRIAL ON SAGANAVATHAM  
(CERVICAL SPONDYLOSIS) WITH THE EVALUATION OF SIDDHA TRIAL  
DRUG “PANCHA PASHANA CHENDHURAM” (INTERNAL)  
“KURUNTHOTTI THAILAM” (EXTERNAL) AND ‘VARMAM THERAPY’**

**FORM II AND II-A**

**CLINICAL ASSESSMENT ON ENROLLMENT AND ON VISITS**

**1. SI NO:----- 2 OP /IP NO: ----- 3. NAME :-----**  
-----

**4. RELIGION : H / C / M / O**

**5. AGE/GENDER :----- 6. OCCUPATION: -----**

**7. SOCIAL STATUS: ----- 8. CONTACT NUM: -----**  
**SIDDHA SYSTEM OF EXAMINATION**

**1. THEGI (BODY CONSTITUTION):**

1. Vatha udal

2. Pitha udal

3. Kaba udal

4. Thontha udal

**2. NILAM (LAND WHERE THE PATIENT LIVED MOST):**

1. Kurinji

- |             |                      |
|-------------|----------------------|
| 2. Mullai   | <input type="text"/> |
| 3. Marutham | <input type="text"/> |
| 4. Neithal  | <input type="text"/> |
| 5. Paalai   | <input type="text"/> |

### 3. KAALAM:

- |                      |                     |                      |
|----------------------|---------------------|----------------------|
| 1. Kaar kaalam       | (Aavani-Puratasi)   | <input type="text"/> |
| 2. Koothir kaalam    | (Ippasi-Karthigai)  | <input type="text"/> |
| 3. Munpani kaalam    | (Maargazhi-Tai)     | <input type="text"/> |
| 4. Pinpani kaalam    | (Maasi-Panguni)     | <input type="text"/> |
| 5. Ilavenil kaalam   | (Chithirai-Vaigasi) | <input type="text"/> |
| 6. Muthuvenil kaalam | (Aani-Aadi)         | <input type="text"/> |

### 4. GUNAM:

- |             |                      |
|-------------|----------------------|
| 1. Sathuvam | <input type="text"/> |
| 2. Rasatham | <input type="text"/> |
| 3. Thamasam | <input type="text"/> |

### 5. PORIPULANGAL (SENSORY ORGANS):

NormalAffected

- |                 |                      |       |                      |       |
|-----------------|----------------------|-------|----------------------|-------|
| 1. Mei          | <input type="text"/> | ..... | <input type="text"/> | ..... |
| 2. Vaai (Naaku) | <input type="text"/> |       | <input type="text"/> |       |
| .....           |                      |       |                      |       |
| 3. Kan          | <input type="text"/> |       | <input type="text"/> |       |
| .....           |                      |       |                      |       |
| 4. Mookku       | <input type="text"/> |       | <input type="text"/> |       |
| .....           |                      |       |                      |       |
| 5. Sevi         | <input type="text"/> |       | <input type="text"/> |       |
| .....           |                      |       |                      |       |



## 6. KANMENDRIYAM (MOTOR ORGANS) :

Normal Affected

- |             |                          |                          |
|-------------|--------------------------|--------------------------|
| 1. Vaai     | <input type="checkbox"/> | <input type="checkbox"/> |
| .....       |                          |                          |
| 2. Kaal     | <input type="checkbox"/> | <input type="checkbox"/> |
| .....       |                          |                          |
| 3. Kai      | <input type="checkbox"/> | <input type="checkbox"/> |
| .....       |                          |                          |
| 4. Eruvaai  | <input type="checkbox"/> | <input type="checkbox"/> |
| .....       |                          |                          |
| 5. Karuvaai | <input type="checkbox"/> | <input type="checkbox"/> |
| .....       |                          |                          |

## 7. KOSANGAL (SHEATH):

Normal Affected

- |                         |                          |                          |
|-------------------------|--------------------------|--------------------------|
| 1. Annamaya kosam .     | <input type="checkbox"/> | <input type="checkbox"/> |
| .....                   |                          |                          |
| 2. Pranamaya kosam..... | <input type="checkbox"/> | <input type="checkbox"/> |
| .....                   |                          |                          |
| 3. Manomaya kosam.....  | <input type="checkbox"/> | <input type="checkbox"/> |
| .....                   |                          |                          |
| 4. Vignanamaya kosam    | <input type="checkbox"/> | <input type="checkbox"/> |
| .....                   |                          |                          |
| 5. Anandhamaya kosam    | <input type="checkbox"/> | <input type="checkbox"/> |
| .....                   |                          |                          |

## 8. UYIR THATHUKKAL (THREE HUMOURS):

8a.VALI:                      Normal    Affected

- |             |                          |                          |
|-------------|--------------------------|--------------------------|
| 1. Praanan  | <input type="checkbox"/> | <input type="checkbox"/> |
| .....       |                          |                          |
| 2. Abaanan  | <input type="checkbox"/> | <input type="checkbox"/> |
| .....       |                          |                          |
| 3. Viyaanan | <input type="checkbox"/> | <input type="checkbox"/> |
| .....       |                          |                          |
| 4. Uthaanan | <input type="checkbox"/> | <input type="checkbox"/> |
| .....       |                          |                          |

5. Samaanan      ☐      ☐

6. Naagan      ☐      ☐

7. Koorman      ☐      ☐

8. Kirukaran      ☐      ☐

9. Devathathan      ☐      ☐

10. Dhananjayan      ☐      ☐

**8b. AZHAL:**      **Normal**      **Affected**

1. Analam      ☐      ☐

2. Ranjagam      ☐      ☐

3. Saathagam      ☐      ☐

4. Aalosagam      ☐      ☐

5. Praasagam      ☐      ☐

**8c.IYAM:**      **Normal**      **Affected**

1. Avalambagam      ☐      ☐

2. Kilethagam      ☐      ☐

3. Pothagam      ☐      ☐

4. Tharpagam      ☐      ☐

--	--

**1.Naadi:** .....

**3.Naa** : .....

**5.Mozhi:** .....

**7.Malam :** .....

**8. Moothiram:** .....

Niram : 1.Whitish ☐ 2. Yellowish ☐

3.Straw coloured ☐ 4. Crystal clear ☐

Edai: 1.Present ☐ 2.Absent ☐

Manam : 1.Nil ☐ 2.Reduced ☐ 3. Increased ☐

Nurai: 1. Normal ☐ 2. Increased ☐ 3. Decreased ☐

Enjal:

Vatha Neer ☐ Pitha Neer ☐ Kaba Neer ☐

**NormalAffected**

1. Saaram ☐ ☐

2. Senneer ☐ ☐

3. On ☐ ☐

4. Kozhuppu

7

.....

5. Enbu

.....  Moolai

.....

7. Sukkilam / Suronitham

**GENERAL EXAMINATION:**

1. Body weight [Kg] :
2. Height [cm] :
3. Body Temperature [F] :
4. Blood Pressure (mmHg) :
5. Pulse Rate /min. :
6. Heart Rate / min. :
7. Respiratory Rate /min. :

		Yes	No
8. Pallor	:	<input type="text"/>	<input type="text"/>
9. Jaundice	:	<input type="text"/>	<input type="text"/>
10. Clubbing	:	<input type="text"/>	<input type="text"/>
11. Cyanosis	:	<input type="text"/>	<input type="text"/>
12. Pedal Oedema	:	<input type="text"/>	<input type="text"/>
13. Lymphadenopathy	:	<input type="text"/>	<input type="text"/>
14. Jugular venous pulsation	:	<input type="text"/>	<input type="text"/>

**VITAL ORGAN EXAMINATION:**

	Normal	Abnormal
1. Heart	<input type="text"/>	<input type="text"/>
2. Lungs	<input type="text"/>	<input type="text"/>
3. Brain	<input type="text"/>	<input type="text"/>
4. Liver	<input type="text"/>	<input type="text"/>
5. Kidney	<input type="text"/>	<input type="text"/>
6. Spleen	<input type="text"/>	<input type="text"/>
7. Stomach	<input type="text"/>	<input type="text"/>

**SYSTEMIC EXAMINATION:**

	Normal	Abnormal
1. Cardio-vascular system	<input type="checkbox"/>	<input type="checkbox"/>
2. Respiratory system	<input type="checkbox"/>	<input type="checkbox"/>
3. Gastro intestinal system	<input type="checkbox"/>	<input type="checkbox"/>
4. Central nervous system	<input type="checkbox"/>	<input type="checkbox"/>
5. Genital urinary system	<input type="checkbox"/>	<input type="checkbox"/>
6. Endocrine system	<input type="checkbox"/>	<input type="checkbox"/>

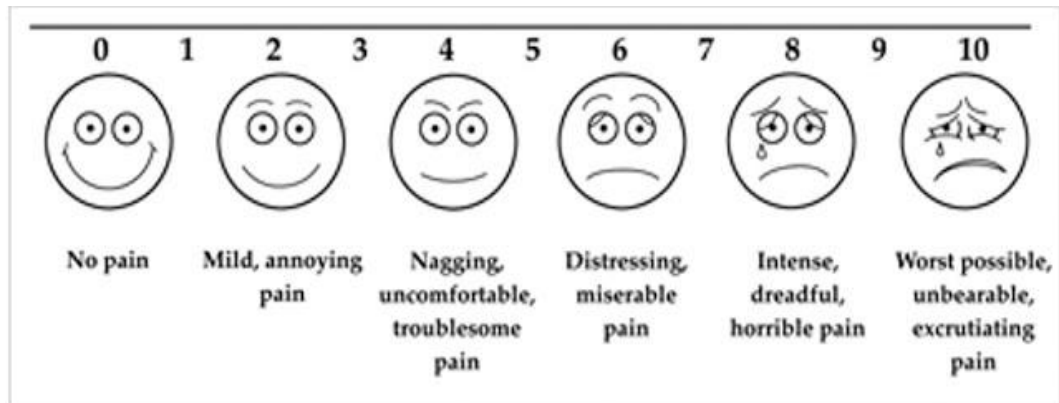
	0 <sup>th</sup> day	7 <sup>th</sup> day	14 <sup>th</sup> day	21 <sup>st</sup> day
<b>COMPLAINTS</b>				
<b>Pain in neck</b>				
<b>Pain in shoulder</b>				
<b>Nature of pain</b>				
<b>Onset of pain</b>				
<b>Radiating pain in right upper limb</b>				
<b>Radiating pain in left upper limb</b>				
<b>Numbness</b>				
<b>Tenderness</b>				
<b>Restriction of movements</b>				
<b>Burning sensation</b>				
<b>Giddiness</b>				

**CLINICAL ASSESSMENT:**

<b>COMPLAINTS</b>	<b>28<sup>th</sup> day</b>	<b>35<sup>th</sup> day</b>	<b>42<sup>nd</sup> day</b>	<b>49<sup>th</sup> day</b>
<b>Pain in neck</b>				
<b>Pain in shoulder</b>				
<b>Nature of pain</b>				
<b>Onset of pain</b>				
<b>Radiating pain in right upper limb</b>				
<b>Radiating pain in left upper limb</b>				
<b>Numbness</b>				
<b>Tenderness</b>				
<b>Restriction of movements</b>				
<b>Burning sensation</b>				
<b>Giddiness</b>				

## PAIN ASSESSMENT:

### VISUAL ANALOGUE SCALE;



## CLINICAL EXAMINATION

### I. INSPECTION

	0 <sup>th</sup> day	7 <sup>th</sup> day	14 <sup>th</sup> day	21 <sup>st</sup> day	28 <sup>th</sup> day	35 <sup>th</sup> day	42 <sup>nd</sup> day	49 <sup>th</sup> day
ATTITUDE								
MUSCLE WASTING								
SWELLING								

### II PALPATION:

	0 <sup>th</sup> day	7 <sup>th</sup> day	14 <sup>th</sup> day	21 <sup>st</sup> day	28 <sup>th</sup> day	35 <sup>th</sup> day	42 <sup>nd</sup> day	49 <sup>th</sup> day
Tenderness								
Muscle spasm								
Local heat								
Local lymph adenopathy								
Pitting oedema								
Joint stiffness								

### III. MOVEMENTS:

	0 <sup>th</sup> day	7 <sup>th</sup> day	14 <sup>th</sup> day	21 <sup>st</sup> day	28 <sup>th</sup> day	35 <sup>th</sup> day	42 <sup>nd</sup> day	49 <sup>th</sup> day
Stiffness								
Restriction of movements:								
Rotation								
Flexion								
Extension								
Lateral bending								

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer:

Signature of the HOD



**GOVERNMENT SIDDHA MEDICAL COLLEGE**  
**ARIGNAR ANNA GOVERNMENT HOSPITAL OF INDIAN MEDICINE**  
**CHENNAI – 600 106**

**POST- GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM**

**AN OPEN COMPARATIVE CLINICAL TRIAL ON SAGANAVATHAM  
(CERVICAL SPONDYLOSIS) WITH THE EVALUATION OF SIDDHA TRIAL  
DRUG “PANCHAPASHANA CHENDHURAM” (INTERNAL)  
“KURUNTHOTTI THAILAM” (EXTERNAL) AND ‘VARMAM THERAPY’**

**FORM IV : LABORATORY INVESTIGATIONS**

**PROFORMA**

**1. SERIAL NO OF THE CASE: .....**

**2.OP / IP NO: .....**

**3. NAME: ..... 4.AGE: ..... 5.GENDER: .....**

**A) BLOOD INVESTIGATIONS:**

<b>BLOOD INVESTIGATIONS</b>		<b>BEFORE TREATMENT</b>	<b>AFTER TREATMENT</b>
<b>Hb ( gm/dL)</b>			
<b>T.RBC (millions cells / Cu.mm)</b>			
<b>ESR (mm)</b>	<b>½ hr.</b>		
	<b>1 hr.</b>		
<b>T.WBC (Cells / Cu.mm)</b>			
<b>Differential Count (%)</b>	<b>Polymorphs</b>		
	<b>Lymphocytes</b>		
	<b>Monocytes</b>		
	<b>Eosinophils</b>		
	<b>Basophils</b>		

<b>BLOOD INVESTIGATIONS</b>		<b>BEFORE TREATMENT</b>	<b>AFTER TREATMENT</b>
<b>Blood glucose (mg/dl)</b>	<b>Random</b>		
	<b>PP</b>		
<b>Serum Calcium</b>			
<b>Renal Function Test</b>	<b>Blood urea</b>		
	<b>Serum creatinine</b>		
<b>Liver function test</b>	<b>Serum total bilirubin directbilirubin indirectbilirubin alkalinephosphatase SGOT SGPT.</b>		

**B) URINE INVESTIGATIONS:**

<b>URINE INVESTIGATIONS</b>	<b>BEFORE TREATMENT</b>	<b>AFTER TREATMENT</b>
<b>Albumin</b>		
<b>Sugar</b>		
<b>Deposits</b>		
<b>Urine Culture</b>		

Date:

Station:

Signature of the Guide:

Signature of the Investigator:

**GOVERNMENT SIDDHA MEDICAL COLLEGE**

**ARIGNAR ANNA GOVERNMENT HOSPITAL OF INDIAN MEDICINE**

**CHENNAI – 600 106**

**CERTIFICATE OF CONSENT**

**STUDY TITLE:**

**AN OPEN COMPARATIVE CLINICAL TRIAL ON SAGANAVATHAM  
(CERVICAL SPONDYLOSIS) WITH THE EVALUATION OF SIDDHA TRIAL  
DRUG “PANCHAPASHANA CHENDHURAM” (INTERNAL)  
“KURUNTHOTTI THAILAM” (EXTERNAL) AND ‘VARMAM THERAPY’**

*“I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any question I have asked has been answered to my satisfaction.*

*I consent voluntarily to participate as a participant in this study and understand that I have the right to withdraw from the study at any time without in any way it affecting my further medical care”.*

"I have received a copy of the information sheet/consent form".

Date:

Signature of the participant

Signature of the investigator

In case of illiterate participant

*“I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.”*

Date:

Signature of a witness

(Selected by the participant bearing no connection with the survey team)



Left thumb Impression

of the

Participant

## ஒப்புதல் படிவம்

அரசு சித்த மருத்துவக் கல்லூரி, சென்னை-106

அறிஞர் அண்ணா மருத்துவமனை, சென்னை

**சுகன வாதத்திற்கான சித்த மருந்தின் பஞ்சபாடாண செந்தூரம் மற்றும் குறுந்தொட்டி தைலம்** பரிகரிப்புத் திறனைக் கண்டறியும் மருத்துவ ஆய்விற்கான தகவல் படிவம்.

ஆய்வாளரால் சான்றளிக்கப்பட்டது

நான் இந்த ஆய்வு குறித்த அனைத்து விபரங்களையும் நோயாளிக்கு புரியும் வகையில் எடுத்துரைத்தேன் என உறுதியளிக்கிறேன்.

தேதி:

கையொப்பம்:

இடம்:

பெயர் :

நோயாளியின் ஒப்புதல்

என்னிடம் இந்த மருத்துவ ஆய்வின் காரணத்தையும், மருந்தின் தன்மை மற்றும் மருத்துவ வழிமுறை பற்றியும், தொடர்ந்து எனது உடல் இயக்கத்தை கண்காணிக்கவும், அதனை பாதுகாக்கவும் பயன்படும் மருத்துவ ஆய்வுக்கூட பரிசோதனைகள் பற்றி திருப்தி அளிக்கும் வகையில் ஆய்வு மருத்துவரால் விளக்கிக் கூறப்பட்டது.

நான் இந்த மருத்துவ ஆய்வின் போது, காரணம் எதுவும் கூறாமல், எப்பொழுது வேண்டுமானாலும் இந்த ஆய்விலிருந்து என்னை விடுவித்து கொள்ளும் உரிமையை தெரிந்திருக்கின்றேன். நான் என்னுடைய சுதந்திரமாக தேர்வு செய்யும் உரிமையைக் கொண்டு சுகன வாத நோய்க்கான **பஞ்சபாடாண செந்தூரம்** (உள் மருந்து) மற்றும் **குறுந்தொட்டிதைலம்**(வெளி மருந்து) மருந்தின் பரிகரிப்புத் திறனைக் கண்டறியும் மருத்துவ ஆய்விற்கு என்னை உட்படுத்த ஒப்புதல் அளிக்கிறேன்.

தேதி:

கையொப்பம்

இடம்:

பெயர்

தேதி:

சாட்சிக்காரர் கையொப்பம்

இடம்:

பெயர்

உறவுமுறை

**GOVERNMENT SIDDHA MEDICAL COLLEGE,**  
**ARIGNAR ANNA GOVERNMENT HOSPITAL OF INDIAN MEDICINE**  
**CHENNAI – 600 106**

**AN OPEN COMPARATIVE CLINICAL TRIAL ON SAGANAVATHAM  
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“KURUNTHOTTI THAILAM” (EXTERNAL) AND ‘VARMAM THERAPY’**

**FORM VI - WITHDRAWAL FORM**

**SI NO:**

**OP / IP NO:**

**NAME:**

**AGE / GENDER :**

**DATE OF TRIAL COMMENCEMENT:**

**DATE OF WITHDRAWAL FROM TRIAL:**

**REASONS FOR WITHDRAWAL:**

- |   |         |
|---|---------|
| • Long absence at reporting :                   | Yes/ No |
| • Irregular treatment:                          | Yes/ No |
| • Shift of locality :                           | Yes/No  |
| • Increase in severity of symptoms:             | Yes/No  |
| • Development of severe adverse drug reactions: | Yes/No  |

Date:

Station:

Signature of the Guide:

Signature of the Investigator:

**GOVERNMENT SIDDHA MEDICAL COLLEGE**

**ARIGNAR ANNA GOVERNMENT HOSPITAL OF INDIAN MEDICINE**

**CHENNAI – 600 106**

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“KURUNTHOTTI THAILAM” (EXTERNAL) AND ‘VARMAM THERAPY’**

**FORM VII – PATIENT INFORMATION SHEET**

**Name of Investigator: Dr.M.RAJANANDHINI**

**Name of the college:** Govt. Siddha Medical College

Arumbakkam

Chennai-106.

**INFORMATION SHEET FOR PATIENTS PARTICIPATING IN THE OPEN  
CLINICAL TRIAL.**

I, M.Rajanandhini studying M.D (Siddha) at Govt.Siddha Medical College, Chennai, is doing a clinical trial on “Saganavadham(Cervical spondylosis)”. It is becoming a most common disease, occurring throughout the world. In this regard, I am in need to ask you few questions. I will maintain confidentiality of your comments and data obtained. There will be no risk of disclosing your identity and no physical, psychological or professional risk is involved by taking part in this study. Taking part in this study is voluntary. No compensation will be paid to you for taking part in this study.

You can choose not to take part. You can choose not to answer a specific question. There is no specific benefit for you if you take part in the study. However, taking part in the study may be of benefit to the community, as it may help us to understand the problem of defaulters and potential solutions.

If you agree to be a participant in this study, you will be included in the study primarily by signing the consent form and then you will be given the internal medicine ‘ PANCHA PASHANA CHENDHURAM” (Internal medicine)65 mg bid with honey for 48 days.

The information I am collecting in this study will remain between you and the Co- investigator (myself). I will ask you few questions through a questionnaire. I will not write your name on this form. I will use a code instead.

The questionnaire will take approximately 20 minutes of your time.

If you wish to find out more about this study before taking part, you can ask me all the questions you want or contact M.RAJANANDHINI, PG Scholar cum investigator of this study, attached to Govt. Siddha Medical College, Chennai-106. You can also contact the Member-secretary of Ethics committee, Govt.Siddha Medical College, Chennai.

அரசு சித்த மருத்துவக் கல்லூரி, சென்னை-106

அறிஞர் அண்ணா மருத்துவமனை, சென்னை

**சுகன வாதத்திற்கான சித்த மருந்தின் பஞ்சபாடாண செந்தூரம் மற்றும் குறுந்தொட்டி தைலம்** பரிகரிப்புத் திறனைக் கண்டறியும் மருத்துவ ஆய்விற்கான தகவல் படிவம்.

ஆராய்ச்சியாளர் பெயர்: மருத்துவர். மு.ராஜநந்தினி

நிறுவனத்தின் பெயர் : அரசு சித்த மருத்துவக் கல்லூரி

அரும்பாக்கம்,

சென்னை-106

அரசு சித்த மருத்துவக் கல்லூரியில் பட்ட மேற்படிப்பு பயின்று வரும் நான்

மருத்துவர். மு. ராஜநந்தினி., சுகன வாதம் என்னும் நோயில் மருத்துவ ஆராய்ச்சியில் ஈடுபட்டுள்ளேன்.

இது பரவக் கூடிய நோய் அல்ல.

இந்த ஆராய்ச்சி சம்பந்தமாக சில கேள்விகளைக் கேட்கவும், தேவையான ஆய்வகப் பரிசோதனைக்கு தங்களை உட்படுத்தவும் உள்ளேன்.

இந்த ஆராய்ச்சிக்கு தாங்கள் விருப்பத்தின் பேரில் உட்படும் பட்சத்தில் உள்மருந்தாக **பஞ்சபாடாணசெந்தூரம் 65**மிகி தேனில் 2 வேளை(காலை, மாலை) உணவுக்கு பின் **48** நாட்கள் உட்கொள்ள வேண்டும்.. வெளி நோயாளர்கள் **7** நாட்களுக்கு ஒருமுறை

மருத்துவமனைக்கு வர வேண்டும்.

இந்த மருந்து சிறப்பாக **சுகன வாதத்திற்கு** அங்கீகரிக்கப்பட்ட சித்த மருத்துவ நூலில்

கூறப்பட்டுள்ளது.

இந்த ஆராய்ச்சியில் தங்களை அனுமதித்த பிறகு உங்களுக்கு விருப்பம் இல்லையெனில் எப்போது வேண்டுமானாலும் ஆராய்ச்சியில் இருந்து விளகிக் கொள்ள உரிமை உள்ளது.

இந்த ஆராய்ச்சி சம்பந்தமாக நோயின் தன்மை பற்றியும் மற்ற வபரங்களுக்கும் ஆராய்ச்சியாளரான மருத்துவர்:மு. ராஜநந்தினி., (பட்ட மேற் படிப்பாளர் சிறப்பு மருத்துவ துறை) அவர்களை எந்த நேரத்திலும் தொடர்பு கொள்ளலாம் கைப்பேசி எண்:

9500746326



மேலும் இந்த ஆராய்ச்சிக்கு தக்க அனுமதிச் சான்று (IEC) பெறப்பட்டுள்ளது.

மேலும் உணவு முறையில் மருத்துவரால் கூறப்படும் பத்தியம் காக்குமாறு அறிவுறுத்த படுகிறது.

இது சம்பந்தமான தங்களது அனைத்து விவரங்களும் ரகசியமாக வைக்கப்படும் என உறுதிஅளிக்கிறேன்.

இதில் பயணப்படி முதலிய எந்த உதவித் தொகையும் வழங்கப் பட மாட்டாது.

இந்த ஆராய்ச்சியின் போது உடலுக்கு வேறு பாதிப்பு ஏற்படும் பட்சத்தில் அறிஞர் அண்ணா மருத்துவமனையில்,தக்க சிகிச்சை அளிக்கப்படும்

**GOVERNMENT SIDDHA MEDICAL COLLEGE**

**ARIGNAR ANNA GOVERNMENT HOSPITAL OF INDIAN MEDICINE**

**CHENNAI – 600 106**

**AN OPEN COMPARATIVE CLINICAL TRIAL ON SAGANAVATHAM  
(CERVICAL SPONDYLOSIS) WITH THE EVALUATION OF SIDDHA TRIAL  
DRUG “PANCHAPASHANA CHENDHURAM” (INTERNAL)  
“KURUNTHOTTI THAILAM” (EXTERNAL) AND ‘VARMAM THERAPY’**

**FORM IV D  
DIETARY ADVICE FORM**

**சேர்க்க கூடிய உணவுகள்:**

- காய்கள்:கத்தரிபிஞ்சு,முருங்கைபிஞ்சு,,அவரைபிஞ்சு,  
ஆகியவை சேர்க்க வேண்டும்.
- கீரைகள்:கரிசாலை,பொன்னாங்கண்ணி,மணத்தக்காளி,  
முருங்கைகீரை,பசலைகீரை,சிறுகீரை, கறிவேப்பிலை ஆகியவை சேர்க்க  
வேண்டும்.
- பழங்கள்:மாதுளை,ஆப்பிள்,வாழை,பேரீச்சை,அத்தி,  
திராட்சை,கொய்யா,ஆரஞ்சு,எலுமிச்சை, நாவல்,தக்காளி,ஆகியவை சேர்க்க  
வேண்டும்.
- தானியங்கள்:கோதுமை,ஓட்ஸ்,சோயாபீன்ஸ்,பட்டாணி,  
கொண்டைகடலை,எள்,பாதாம் ஆகியவை  
சேர்க்க வேண்டும்.
- அசைவம்:வெள்ளாட்டுகறி,ஈரல்,எலும்புமஜ்ஜை,  
ஆகியவை சேர்க்க வேண்டும்.

**சேர்க்க கூடாதவைகள்:**

- மந்தப் பொருள்
- உருளைக் கிழங்கு.
- அகத்திக்கீரை.
- புளிப்பு.
- புகையிலை
- மது அருந்துதல்